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FEBRUARY, 1952

THE *Country* GUIDE

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All over the West...

Big scale Farmers are Talking

the
**MASSEY-HARRIS
WIDE LEVEL DISC**

"Seeded 500 acres in 77 hours" . . .

"Works equally well on gumbo or sandy land"...

"Great saving on fuel cost" . . .

Read the details below:



Max Laing

Max Laing, Elm Creek, Man.:

"Our family uses four Massey-Harris No. 26 Wide Level Discs. We feel that this machine does the job of the cultivator and drill combined, and does it better and in one operation, on our land. It does an excellent job of seeding, and gets the seed in the ground early to take advantage of moisture."

Emil Wagner, Laporte, Sask.:

"The Massey-Harris No. 26 Wide Level Disc has speeded up my work and cut fuel and operating costs away down. It is a real man-saver and hour-saver."



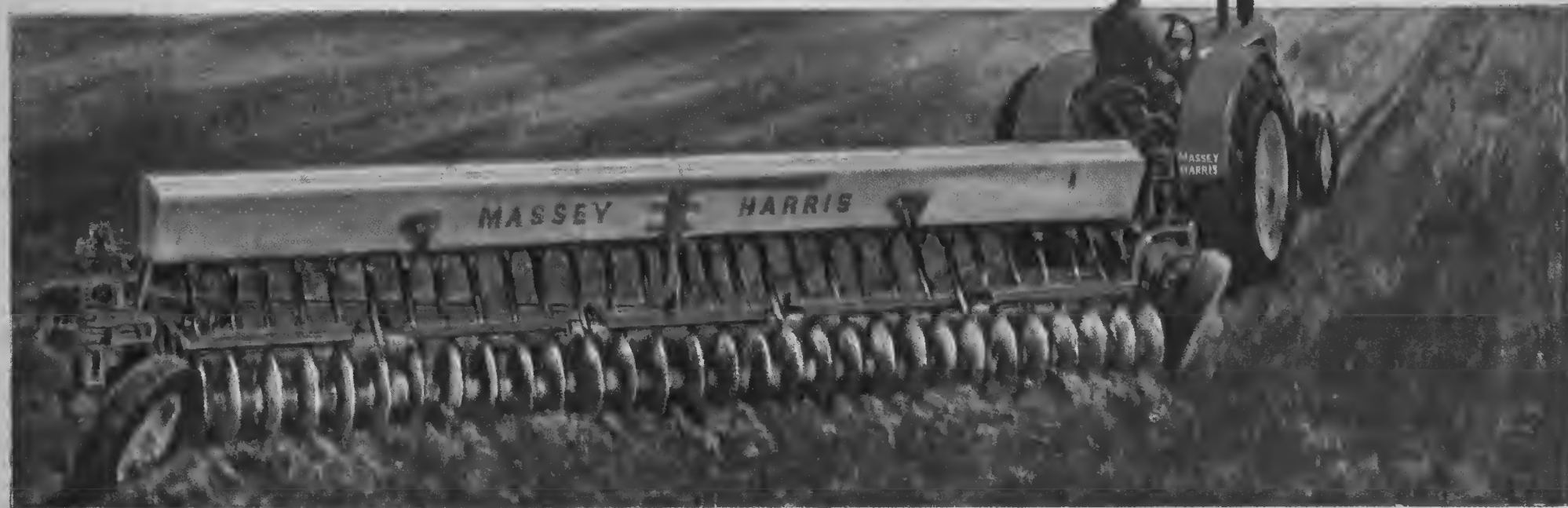
George Young

George E. Young, Manitou, Man.:

"The Massey-Harris Wide Level Disc is an excellent machine for destroying wild oats in the spring before using the seed drill. We also find it the best machine for working combine stubble to start fall growth. Our land is much more level now that we are using the wide level disc as well as the plow."

Cecil Ward, Altario, Alta.:

"The Massey-Harris No. 26 Wide Level Disc does a good job of seeding and saves a lot of time. I also use it on my summer fallow and it does not pulverize the soil."



Ildege Sabourin

Victor Kowalchuk, Whitkow, Sask.:

"We have worked our Massey-Harris Wide Level Disc on all types of land, sandy, gumbo and rolling land. I am well satisfied with the whole season of work we get out of it."

Ildege Sabourin, St. Jean, Man.:

"Our whole line of farm equipment is Massey-Harris, including three tractors, wide level disc, one-way disc, cultivator, drill, plow, harrows, swather and three self-propelled combines. All of this equipment is operated by hired help and it stands up, trouble free."



J. D. McLeod

McLeod Bros., Marriott, Sask.:

"We bought a Massey-Harris 55 Diesel Tractor and No. 26 Wide Level Disc last spring, and have found we can do more work in less time, with great saving on fuel cost."

H. Weinmaster, Yorkton, Sask.:

"It has cut my fuel bill in half, and also the time spent in summer fallow work has been cut in half."

H. J. Veenendaal, Fort Saskatchewan, Alta.:

"We seeded 500 acres in 77 hours with our M-H Wide Level."

**COAST TO COAST
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OFFERS MOST**

MAIL COUPON FOR FULL INFORMATION

Massey-Harris Company, Limited, Toronto, Ont.
Without putting me under any obligation, please send complete information about the Massey-Harris machines I have marked with an "X" below:

Wide Level Disc ☐ Tractors ☐ One-Way Disc
Discs ☐ Cultivators ☐ Sprayers

Yes, the Massey-Harris Wide Level Disc is taking the West by storm, and with good reason. It is cutting down man-time and fuel cost per acre, in both seeding and summer fallow operations. Equally important, it is helping big-scale farmers to complete the seeding or tillage of large acreage in proper season for maximum results. Write for specifications and full particulars. The coupon is for your convenience.

MASSEY-HARRIS

A CANADIAN COMPANY WITH



A WORLD-WIDE ORGANIZATION



Photo by H. Armstrong Roberts

THE *Country* GUIDE

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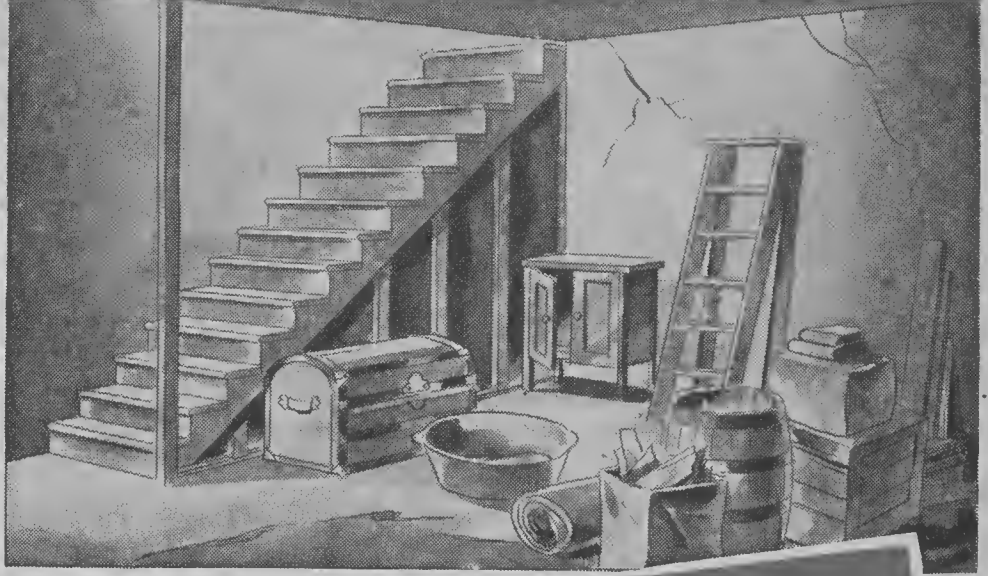
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Which one is your basement?



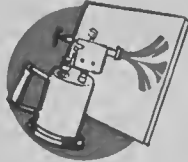
You too can make a smart new addition to your home by remodeling that dark, dingy basement. Stonebord, the economical gypsum wallboard makes this possible—you can do the work yourself too. You don't have to be an expert to work with Stonebord.

ECONOMICAL



Stonebord is economical—costs only 6c per square foot. It's the most inexpensive quality wallboard you can buy. Stonebord is simple to work with, just cut to size and nail in place. No annoying delay. You can paint or paper immediately.

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Stonebord is a rigid gypsum wallboard which provides a fire barrier for wood framing in walls and ceilings. Stonebord is composed of a solid gypsum core encased in rugged specially treated paper. The paper is finished in an ivory color so it can be left unfinished if desired.

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with the Recessed Edge!



WESTERN GYPSUM PRODUCTS LIMITED

Manufacturers of
a complete line of Fire-proof Building Materials

WINNIPEG

CALGARY

Save Work in the Farm House!

NEW BOOK SHOWS HOW TO BUILD YOUR OWN



ABOVE

Photograph of part of a typical Eastern Canadian farm kitchen. While neat and clean, poor design of the room results in hours of unnecessary work for the woman of the house.

RIGHT

Architect's sketch of the same view after remodelling. Without major structural alterations, the kitchen has been made into a properly planned unit. Work is reduced to a minimum, and living is far more pleasant and convenient. The new booklet "How to Improve Your Farm Kitchen" explains fully how you can do the same for your farm kitchen at moderate cost.

BOOK INCLUDES MANY FEATURES:

Planned Kitchen!



PROPERLY PLANNED KITCHEN OFFERS FARM FAMILIES MANY ADVANTAGES...

Despite installation of modern equipment, most Canadian farm kitchens are making their occupants do *days of extra work and miles of extra walking every month!* Many of the benefits of new stoves, refrigerators, freezers and washers are never fully realized.

REWARDS FOR PLANNING

A well planned kitchen is highly rewarding. Meal preparation, dish-washing and other daily chores are greatly eased. Cleaning time is cut. The

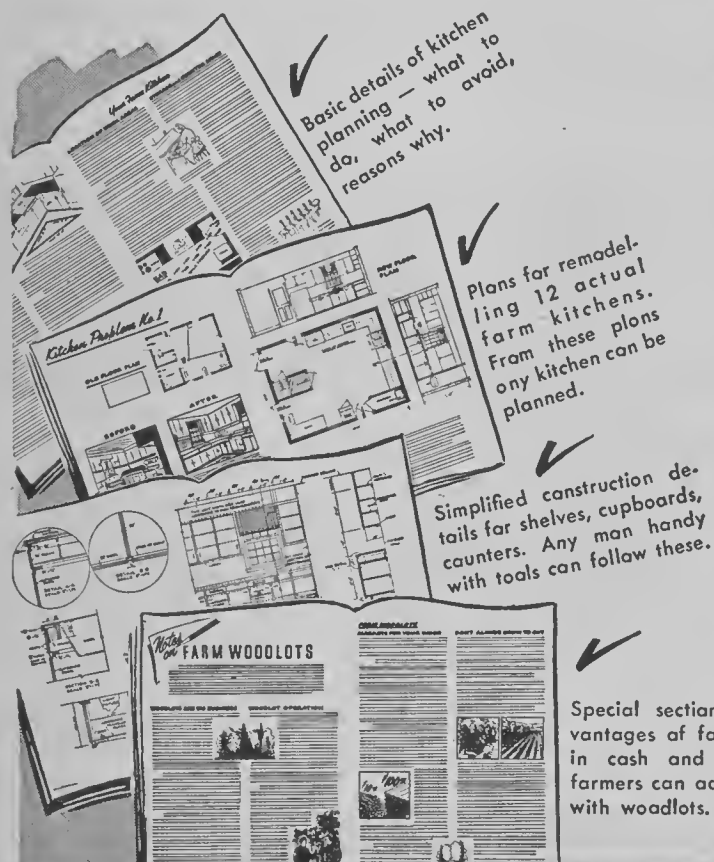
planned kitchen is a much more pleasant place in which to work, eat, relax and live. The value of the property is usually increased more than the cost of remodelling.

BASIC REQUIREMENTS

From surveys, from kitchen design experts, and from talks with farmers, all basic requirements for practical, smart and modern farm kitchens have been determined. They are set out fully in the new booklet "How to Improve Your Farm Kitchen". Included are complete illustrated explanation of farm kitchen planning... floor and wall plans for redesign of 12 typical kitchens... full construction details.

CUTTING THE COST

No major structural alterations are suggested. A man handy with tools can make his own planned kitchen with very little outside help. Regardless of your present kitchen design, "How to Improve Your Farm Kitchen" will enable you to enjoy a planned kitchen at moderate cost. Send for your copy.



Mail this Coupon Today!

CANADIAN LUMBERMEN'S ASSOCIATION,
"TIMBER HOUSE", 27 GOULBOURN AVE., OTTAWA, ONT.

Please send me.....copies of "How to Improve Your Farm Kitchen" at 50¢ a copy. I enclose.....¢.

Name.....

Address.....

CANADIAN LUMBERMEN'S ASSOCIATION

"TIMBER HOUSE" - 27 GOULBOURN AVENUE
OTTAWA, ONT.

Under the Peace Tower

IN the summer of 1950, I had occasion to look up a government number in the Ottawa city phone book. I did as I had always done, search for the department I wanted under "D," naturally turning to the big black type which said Dominion of Canada.

Judge my surprise to discover the Dominion of Canada had completely disappeared from the Ottawa phone book. I had to dial 113 and ask "information," and I learned to my surprise that I would now find "the government" listed under "G," and enjoying the new nomenclature *Government of Canada*.

That was the beginning of a step which some claim will lead us to Republicanism.

"They're trying to make us like Ireland, you just watch," prophesied a veteran Press Gallery reporter.

I undertook to run down this "Government of Canada" story, to see who authorized the phone book change, and I got a lot of weasel words and buck-passing before a government official hemmingly and havingly confirmed that Canada had a new name. But he laughed it off with a false heartiness and said it had been passed as an order-in-council months before. (Whenever the government wants to slip something over on the people, they bury it in a Privy Council minute and silently slide it through!)

Since that time, the Government of Canada has been doing some interesting things. We may not be headed for Republicanism, as some profess to fear, but we are giving an awfully good imitation of it.

We have assiduously tried to cut the umbilical cord between ourselves and the Mother Country every time we could. I am not saying that a lot of the things we are doing are not good. Certainly our status is now that of a grown son out on his own, in his own house, and boss of it. But now we sometimes seem to be going through the motions of letting on we are no longer relations.

FRANKLY, I think a lot of what we have done is all to the good. But I can see where, if we do not watch out, we will be headed straight toward Republicanism.

It is not so long ago that we abolished all future appeals to the Privy Council, and our own Supreme Court of Canada is now indeed supreme in fact as well as in name. This is certainly a step in the right direction. To many it seemed unfair that if a man had money enough, he could take his case one step beyond the highest tribunal in Canada, and conceivably upset decisions which had taken a great deal of time, effort and money to obtain in Canada. Justice appeared, in a sense at least, loaded against the poor man. Again there is doubt in some minds if the noble lords, remote from the country, some of them indeed perhaps never having seen Canada, could dispense even-handed justice any better in Britain than in Canada.

Then recently we have been busy trying to scrub the word "Royal" off mail trucks and post office property. The way Postmaster General Edouard Rinfret has been going after it, you



would think "Royal" was a naughty word written on postal property by some nasty little boys.

TO confuse the issue more, Prime Minister St. Laurent seemed to backtrack a bit the other day, when at his recent famous press conference, he looked out the window at a postal "Royal Mail" truck, after some scribe had drawn his attention to it. The gist of it was that Mr. St. Laurent musingly remarked something about Rinfret getting mixed up. So we do not know now whether the "Royal" is to go or to stay.

Then it will be recalled a couple of years back that Phileas Cote, M.P., a chap residing in Ottawa, but twice a victor in Metapedia-Matane, introduced a motion to make Dominion Day "Canada Day." The thing actually passed, and some apparently bemused and benumbed Liberals at the end of the session actually supported it: The Senate stifled it. Cote himself is not and never will be important. But he reflects a widely held sentiment in Quebec. He and his like, as well as thousands of nationalists, dislike the word "Dominion." To them it connotes servility, colonialism, and the always hated England. Not for nothing did the clergyman at the St. Jean Baptiste church one year refer in an overflow St. Jean Baptiste Day rally thus:

"Notre anciens antagonists, L'Anglo Saxon and Le Yankee."

"Our old enemies, the Anglo Saxon and the Yankee." The way he said it spoke volumes. To this holy man, the English were the enemy.

"Canada Day" Cote was no fool after all. As far as his own people were concerned, he was doing the right thing, saying the right thing, taking the right action. "Canada Day" is not dead yet.

Now comes Vincent Massey!

It is idle to deny that the presence of a Canadian Governor-General is causing a lot of resentment. My own personal feeling, for what it is worth, is that if

(Please turn to page 85)



"The whole town comes to our parties!"

says Mrs. Robert L. Ewart

"It isn't hard to get the whole town in on one card party," Lila Ewart explained. "There are only 235 people in our community!"

The Ewarts look forward to these gala evenings. They're both young and energetic. "And I just love to dress up," Lila confessed.

In spite of her share of farm chores . . . housework . . . and their 6-month-old baby, Lila's hands always look dressed up for a party, thanks to Jergens Lotion!



"It ain't hay . . . pitching in on the field work. It rasps my hands till they're raw. But Jergens Lotion softens them up beautifully. I couldn't be a day without it."



"A few hours outdoors during our bitter winters turns your skin to leather. We'd be constantly chapped if it weren't for Jergens. Bob and I use it faithfully."



"Bob accuses me of pampering our daughter. (I'm forever smoothing her skin with Jergens.) The truth is, with the cold outdoors and dry heat indoors, Jergens keeps her tender skin from chapping."



Jergens Lotion doesn't merely coat skin with a film of oil. It penetrates the upper layers and furnishes the beautifying moisture dry, thirsty skin needs. And Jergens Lotion is only 15¢, 37¢, 65¢, \$1.15.

(MADE IN CANADA)

More women use **JERGENS LOTION** than any other hand care in the world!

YOU ARE INVITED TO SEE THE PLYMOUTH for 1952

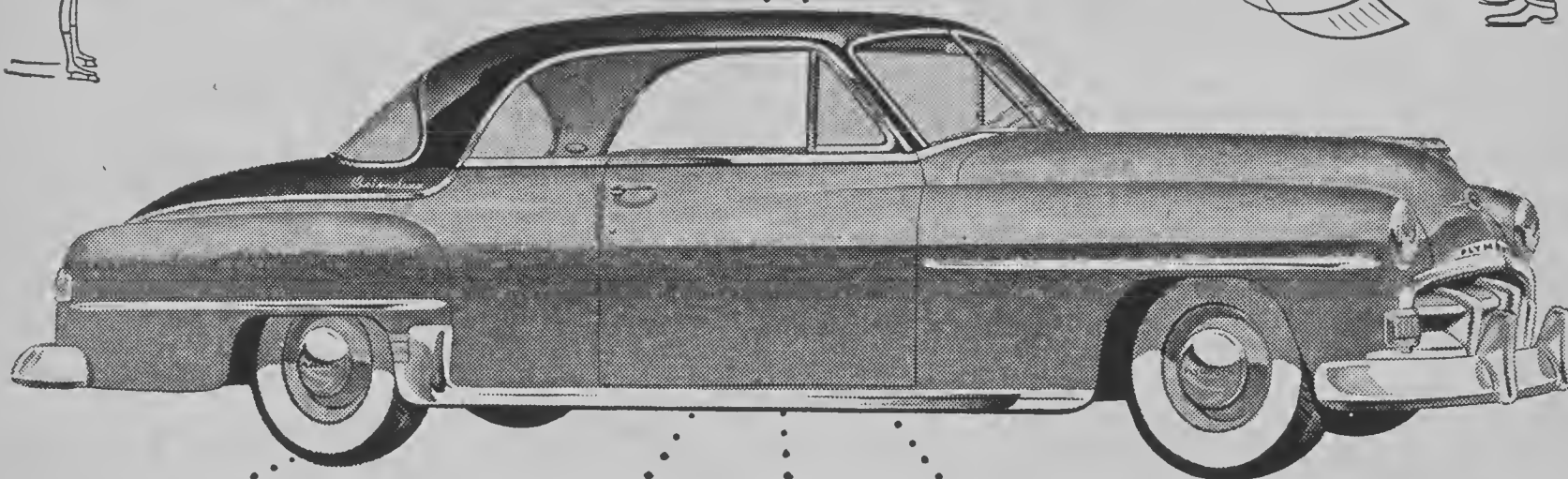
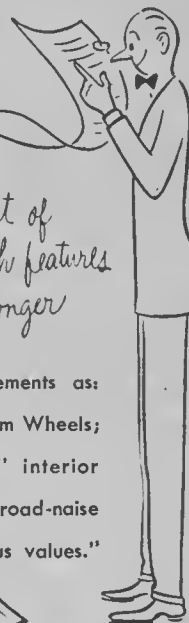
*new
Safety-Flow ride*



... with Oriflow Shock Absorbers — a new adaptation of the hydraulic principle. Only a demonstration ride will show you how the '52 Plymouth S-M-O-O-T-H-S out any road ... even the roughest road.

*the list of
Plymouth features
grows longer*

The long list includes such advancements as: Electric Windshield Wipers; Safety-Rim Wheels; long, 118½" wheelbase; "big-cor" interior room; rustproofing; insulation against road-noise and weather; and many other "plus values."

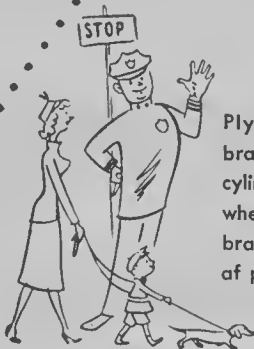


*new Tone-Tailored
interiors*

Luxurious new fabrics, finishes and trim ... tasteful new colour-harmonies that you'll want to see.



*Safe
Powerful
Brakes*



Plymouth 6-cylinder brakes (an extra brake cylinder on each front wheel) give maximum braking with a minimum of pedal pressure.



*Follow-thru
Ignition-key starting
with automatic choke*

Just turn the ignition key! The electric automatic choke provides the correct fuel-air mixture for fast starts in all kinds of weather.

*Fresh
new
beauty*



Improved interior styling and ten, eye-delighting exterior colours for you to choose from.

The '52 Plymouth is at your dealer's now! We say it's the finest Plymouth ever built, and that goes for quality, for value, for engineering features, for everything about it. But we would sooner let Plymouth speak for itself. Plan to see it soon, and try Plymouth's sensational new Safety-Flow Ride!

AT YOUR CHRYSLER-PLYMOUTH-FARGO DEALER'S NOW!



Head table guests caught by the camera at the Quebec government dinner to the C.F.A. at Montreal, are (left to right): H. H. Hannam, C.F.A. president; the prime minister, the Rt. Hon. Louis S. St. Laurent; J. A. Marion, C.F.A. 2nd vice-president; and the Rt. Hon. James G. Gardiner, federal minister of agriculture.

IT is surprising, when one reflects on it, that it was about 325 years after agriculture first began in Canada, before Canadian farmers achieved their first truly national farm organization. That this is true seems all the more surprising in view of the fact that, until comparatively recent years, Canada has been a predominantly agricultural country. The fact that the Canadian Federation of Agriculture, representing an estimated 400,000 Canadian farmers, this year held its 16th Annual Meeting in Montreal in the province of Quebec where Canadian agriculture first began, thus provides something of a coincidence.

Time was, when history was a matter of counting kings and the wars they fought. Today the kings are nearly all gone and wars are the affairs, not of kings or nations, but of groups of nations. The measure of a civilization now is the character of its institutions, and one of the established institutions of Canada in 1951 is the Canadian Federation of Agriculture.

An institution is like a house filled with people, some of whom are busy building the structure to make it greater, while others are tearing down portions of it. Those who are destroying, generally do so because they believe something different should be built. The consequences are variable, but if the destroyers ever become more numerous than the builders, the house quickly becomes uninhabitable and falls into decay.

Nearly all farm organizations exemplify the maxim that "eternal vigilance is the price of success." Few, if any, are perfect. Most have places in their structure that are vulnerable. The Canadian Federation of Agriculture is not free from defects, but concentration on these imperfections sometimes blinds people to the unifying effect which the Federation has had upon Canadian agriculture during its comparatively short lifetime, and the real progress which it has made.

C.F.A. Meets in French Canada

Meeting in Montreal the Canadian Federation of Agriculture reviews its progress and considers a wide range of farm problems

by H. S. FRY

H. H. HANNAM, president and managing director of the C.F.A., devoted his presidential address to the progress which the organization has made during its lifetime and to its influence on Canadian agricultural policy and progress, as well as in matters which affect agriculture internationally. He spoke with some pride of the satisfactory relations established with the federal government, and said:

"A broad view of Canada's agricultural program, noting particularly features designed to provide some measure of stability and minimum security to agricultural producers, gives one an indication of the influence which our federation has exerted in the national economy. Here are a few: The agricultural prices support program; legislation for regulated marketing; the coarse grains programs; the freight assistance program; the Co-operative Mar-

keting Act; the average of income, the basic herd plan, and many other changes in farm income tax regulations; additions to the free list, under the customs tariff, of certain farm machinery and equipment; the operations of the Agricultural Products Marketing Board; and the recent passing of the bill to prohibit resale price maintenance.

The minister of agriculture, the Rt. Hon. James G. Gardiner, substantially corroborated this view on the second day of the conference when he said: "... Before the war and in the early part of it, there were a number of problems about which there was considerable controversy. The price of wheat, dairy products, eggs, a market for potatoes and apples, and many other problems were discussed with some heat on occasion.

"These changing conditions, resulting from war and peace, made our meetings interesting because they were controversial. But out of those meetings we developed a technique which has been found most helpful. The Canadian Federation established its head office in Ottawa. Farm organizations from one end of Canada to the other affiliated with the Federation and communicated with the federal government through that office. At your request, we set up an advisory committee, of which your president is chairman, and on which the provincial governments have representatives, with which I and my officials discuss every important matter concerning agriculture before action is decided upon. The result is that our meetings are not so controversial as they once were."

ALSO, in his speech, the minister referred to the fact that, contrary to general belief, Canadian exports of farm products now are not low. He quoted figures to show that during the period 1936-40, our exports averaged \$353 million, while for 1941-45 they averaged \$763 million, and for 1946-50 the average was \$937 million. Expressed as average yearly (Please turn to page 88)



Some commodity group representatives at the C.F.A. meeting (left to right): Gordon Loveridge, Sask. Co-op Creameries; Roy Grant, Maritime Co-op Services; J. E. Brownlee, United Grain Growers; Ben Plumer, Alberta Wheat Pool; and Cyril Sherwood, Dairy Farmers of Canada.



Top left: A labor-saving snow fence stack; Murta in foreground. Top center: Murta forking grass silage, a practice he deprecates. Top right: An unopened corn silo. Lower left: Feed bucket on track: end of stable hinged to facilitate cleaning. Lower right: Suspended mangers which are raised as winter manure accumulates.

[Guide Photos]

Beef with less back work

IF you met someone who told you about a farmer looking after 85 head of cattle with a little over two hours' work daily you would likely think he was talking nonsense. If your informant was talking about John Murta, Graysville, Manitoba, however, he would have hit the nail squarely. For that is just what Murta does.

John Murta is a young man—38—but he has owned some cattle for nearly 20 years. For the greater part of this time the cattle on the Murta farm have been cared for in pretty much the same way as the rest of us do it—a pitchfork and a lot of hard work.

In 1944 Murta and his father—who was then still active on the farm—started to build up their cattle enterprises. Each owned a herd on the section farm. In '44 John bought about 25 head of feeders; he bought the same number each year for the following two or three years. He would buy early spring calves in the late fall at about 700 pounds, winter them over on corn silage and cut hay, pasture them on brome and alfalfa until August or September and slap them onto the market with never a bushel of grain put through them. Admittedly he was operating on a rising market, but it still indicates a fair system when he was able to buy \$2,200 worth of cattle one fall and sell the same animals the fall following for over \$6,000.

During this period Murta became a passionate convert to the idea of performing every operation

with the minimum expenditure of labor. That idea has dominated every change that has been made in his daily routine, and there have been many. The story of Murta is the story of labor economy. That is common enough among tractor farmers who can measure costs in cents per mile of travel, in hours of labor per bushel of yield, and in gallons of fuel per acre cultivated, or many other formulae which can be applied with exactitude to mechanical operations. With stock it's different. The qualities that make a good stockman and the quality that makes an extraordinarily good analyst of time-work studies are seldom combined in the same man.

Murta has got it. And a tour around his farm is an inspiration because it shows some of the possibilities ahead for the man who isn't wedded to old practices. It isn't too much to say that Murta's farm is a preview of what livestock keeping on a typical western farm will be as the country becomes older and economic stresses shake out the less efficient.

AFTER his 1944 experiences with feeders, recounted above, Murta was afraid of a sudden break of prices in cattle so he decided to breed cattle instead of buying feeders.

He bought 25 head of good, commercial Hereford heifers in the fall of 1949, bred them as yearlings in the spring of 1950 and got a nice crop of

calves from them this spring. Out of 43 calves dropped on the place he managed to raise 40, which is a profitable enough percentage.

The high percentage of the calves raised is only one of the many factors that makes this farm unique. But now to the meat of the story—an examination of his labor-saving expedients.

Murta hauls practically no manure during the winter. Admittedly he has to clean the stalls in which the milk cows, the bull and a team of horses are tied, but he cleans behind none of the other cattle. He feeds the stock corn or grass silage, and he has it so organized that feeding can be completed in a few minutes. Bedding is cut and is ready to hand. He is fortunate in having a small river running past the barnyard, and so can water through the ice and does not have to pump. He has all farm operations geared to a maximum of production with a minimum of labor, which adds up to about two minutes of work per head of cattle per day on this efficient farm.

Murta cut costs and labor by feeding no grain. His standard practice is to sell the cattle off the grass in the fall. He feeds high quality roughage in the winter and grazes the cattle on an alfalfa-brome mixture in the summer, with the result that they are never down in flesh. The fact that he has topped the Winnipeg market with cattle sold off the grass in the fall (Please turn to page 55)

A practical farmer operating 65 miles southwest of Winnipeg looks after a large herd of cattle with an inconceivably small amount of hard work
by RALPH HEDLIN

Operation Pemberton

Flooding and seepage from the Lillooet River have claimed two out of every three crops in the rich bottom lands of the Pemberton Valley, which lies 100 miles northeast of Vancouver. A five-year, million-dollar, P.F.R.A. reclamation project, to be completed this year, will discipline the ravaging waters and permit development of a prosperous agriculture

by C. V. FAULKNER

THE year 1952 is one of fulfillment to the flood-plagued farmers of British Columbia's isolated Pemberton Valley. For years Pemberton farms have been ravaged by overflow and seepage from the sediment-laden Lillooet River and its tributaries that rendered 75 per cent of the land unusable. This year will see completion of a five-year, million-dollar reclamation program by the Water Development Branch of the Prairie Farm Rehabilitation Act administration to drain and protect Valley lands. It will also mark completion of the Pacific Great Eastern Railway's northward extension to Prince George and Pemberton's first direct link with outside lines.

Pemberton Valley straddles the provincially owned railroad, about 100 miles northeast of Vancouver. Here the glacier-fed Lillooet River laid a mile-wide strip of silty alluvium between precipitous granite walls of the Coast Range mountains before entering Lillooet Lake and the Fraser River system. In its 30-mile course through the Valley the river falls only 120 feet, this easy gradient causing a loss of flow velocity that results in heavily silted channels and subsequent flooding of adjacent lands during high-water periods.

"We figured we took one crop out of three, and the river took the rest," said prize potato grower John Decker, wryly.

By 1941, Valley farmers had decided to band together and fight back. Taming the Lillooet, however, proved too big a job for a small community of 50 farms. Pointing out that a considerable acreage of crown land would also benefit from river control, the locally formed Pemberton Valley Dyking District organization was able to sign a tripartite agreement with the federal and provincial governments to attempt a permanent cure. Through its agency P.F.R.A., the federal government would be responsible for actual construction; sale of the district's provincially held land would help defray the cost; then Valley residents would take over when work was completed and keep dykes and ditches in repair.

KEY project of the reclamation scheme was to lower the level of 15½-mile-long Lillooet Lake from eight to ten feet to increase river flow speed throughout the length of Pemberton Valley and scour a deeper channel. This plan was aided by cutting through river meanders, confining the Lillooet to a straight course along the Valley's east wall for some 14 miles of its length. Twenty-four miles of dyking and 17 miles of drainage canals completed the program that will see from 15,000 to 20,000

Below: Looking south down the Valley from Pemberton Meadows, with mist-shrouded Mount Curry in the background.



acres join the agricultural production line, and fulfillment of dreams of pioneer settlers who visualized the mountain-girt valley as a potential bread basket.

THE history of settlement in Pemberton Valley is closely tied with the Cariboo gold rush of the 1860's, for Pemberton lies on the "Trail to Lillooet" of storied fame. Up this land and water route from Harrison to Lillooet Lake came the men and supplies for the booming gold town of Lillooet, mile zero of the Cariboo Trail. By the same route, John Curry, Scottish-born member of the original Royal Engineers Company that hewed the Fraser Canyon Road, later entered the Valley as its first settler. Curry fathered Pemberton's agriculture by raising hogs and cattle which he sold to travellers, or drove up the 60 rugged miles to Lillooet.

Many years later, rumors that a railroad would be routed through the Valley brought trekkers up the old trail again, this time in search of land. Among them were Ronayne brothers and W. M. Miller, whose descendants comprise a good portion of Pemberton's present community.

Through the keen eyes and memory of 79-year-old John Ronayne, lone survivor of that early group, one can visualize the hardships of these hardy pioneers freighting supplies up the frozen trails—can trace the changing pattern of Valley agriculture over the past 50 years.

"Before the railroad came it was touch and go just where a person would get their supplies," he relates, "you see, we were about equal distance from



Above: Central Pemberton Valley, illustrating one of the canals dug to straighten the Lillooet River and reduce flooding.

the three main supply points—Lillooet above us on the Fraser, Douglas at the head of Harrison Lake, and Squamish on the salt water were each about 60 miles away. But the Squamish route won out over the others when they improved the trail."

The old wagon road between Harrison and Lillooet Lakes was pretty tough going in those days.

"We used to navigate the steep hills by dragging a big log behind as a brake," the oldtimer recalls with a smile, "there were enough discarded logs at the bottom of those hills to build a small town."

John Ronayne first saw Pemberton as a lush, level valley of giant cedars and cottonwood, broken by open sedge marshes. There was little evidence of flooding at that time, the huge "water-acreage" now being reclaimed having developed in the years that followed. As it is today, farming then was confined to the lighter-textured soils along the natural levees of the river banks where land was high enough for adequate drainage.

The Ronayne brothers settled in the upper part of the Valley near John Curry's potato fields, in the area now called Pemberton Meadows. To clear the heavy timber early settlers used to set fires indiscriminately.

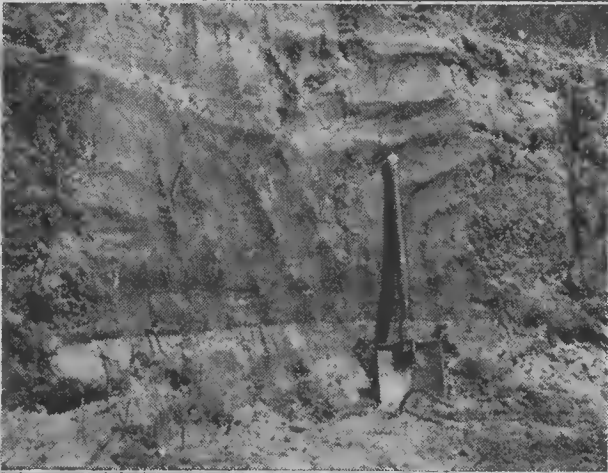
"Those huge, decadent cottonwoods went up like torches," John Ronayne chuckled.

When railroad construction finally started the Ronaynes and their neighbors were rewarded for their efforts by the ready market created for their beef, pork, and vegetables in the work camps along the route.

THE years that followed saw Valley producers swing from beef and vegetables to dairying, shipping whole milk to Vancouver under the Fraser Valley Milk Producers' Association. Later, the stiffening of production rules interfered with this market, and milk shipments from the Valley have today dwindled to almost nothing. Patrons of Pemberton's lone cafe drink canned milk shipped in from Vancouver.

With the coming of marketing boards and scientific seed production, Pemberton growers saw a chance to "cash in" on (Please turn to page 35)

A P.F.R.A. canal in upper Pemberton Valley—one of many dug to drain excess water.



Bands of sand in this alluvial silt bear silent witness to floods of past years.

Beef cattle on the E. Ronayne farm at Pemberton Meadows grazing in the shelter of the mountains.





The boys sit quiet and wait for Mike, because he is captain and playing coach and so it's his right to talk.

WE are sitting in the dressing room of the Carnwood rinkhouse, heads lower than our knees, when she knocks at the door. Knocks, I say, but that's putting it wrong. She hammers. If we hadn't seen her heading our way when we came in off the ice, we would be taking her for a riveter.

"It's Miss Purdy," says Mike Scholoski at last. "Better open up." Mike's captain of our team, and what he says, goes, so I heave up off the bench, and clatters over on my skates to give the Yale lock a twist. Mike moves in behind the pot-bellied, red-hot stove.

I intend to step aside as the door opens, but don't get a chance. The thing hits me on the most prominent part of my anatomy and I fall back over Shorty's goal pads. She clears the door sill like the opposing forwards had come over our blue line, only faster. Then she's standing over me, and for a minute I begin to think she's going to commit mayhem. A bit of grey hair tumbles from under her toque, and over one ear. Her face, with cheeks like little red apples, is turned toward the bench, but she doesn't miss me with the tail of her eye. She peels off her gauntlets very carefully. Her lips are set like I seen them the time she drove a heckler off the platform at an election meeting. I just sit there on the floor holding my nose where the door had smashed it, and wishing Mike hadn't said to let her in.

"What's the idea keeping a lady waiting?" she snaps in the general direction of the bench. Everybody looks toward Mike, where he is out of sight behind the stove, but Mike must've missed what she said. "Well, Lanky?" she says, looking down at me. "Still sitting?" That last is a nasty allusion to something which happened during the game we Outlaws had just lost to the Fern Valley All Stars.

Miss Purdy knows hockey and never misses a game but she also runs almost everything and everybody in Carnwood, including The Bugle, and that's why there was some commotion when she announced that she was to be coach for our two final games

consider himself. After all, Miss Purdy is president of the Ladies' Aid, and was chairman of the last election meeting. More than that, she's editor-owner of the Carnwood Bugle, and reports all our games. Maybe she will even put Mike's picture on the front page for scoring his goal against the All Stars.

MIKE finally untangles his laces, and looks up. The surprise that spreads around his handsome face is a credit to him. "Miss Purdy!" he exclaims. "When did you come in?" He glares at us. "Why doesn't someone tell me these things?" He moves over on the bench, crowding Shorty into a corner. "Sit down, and I'll give you the dope for the paper." She's got it already, for herself, and he knows it.

Miss Purdy just smiles back at him, but her eyes don't smile at all. Mike moves back to give Shorty more room.

Illustrated by J. H. Petrie

"We didn't hear you at first," I lie in my teeth. "Honest, Miss Purdy."

She looks at me, and I scramble to my feet. "I'll knock a trifle louder next time," she says real lady-like.

She steps over Shorty's goal pads, and comes around the stove. Mike is removing his skates, and a bad knot in his laces takes all his attention. Miss Purdy stands, with her hands on her hips, patiently waiting for him to untie that hard knot, and look up. Mike gets very red where his turtle-neck sweater comes up around the ears.

Miss Purdy isn't very big, maybe not more than 109 pounds, and maybe five feet one or two, but she seems to crowd the dressing room. Her black eyes don't miss anything either, and right now they're fastened on Mike's shoe laces. The boys sit quiet, and wait for Mike because he's captain and playing-coach too, so it's

"Mike," Miss Purdy says, leaning toward him, "did you protest that last goal?"

Mike looks at Shorty, but scores no assistance. "The last one?" he fumbles.

"Yes, Mike, there finally was a last one. The tenth one. Scored while Lanky was warming the ice." I starts in to protest, but she cuts in fast. "That big left winger on the All Star forward line was in the goal crease when the shot was made. Shorty didn't have a chance."

"That's right, Mike," Shorty chirps. He's 180 pounds with a voice like a bird's. "The guy almost stood on my stick."

Bert Smythe, my partner behind the blue line, adds his two cents. "You should've knocked his toes off," he says.

Miss Purdy shakes her head at that. "No," she tells him. "You would, Bert, because you play your hockey from the penalty box, but it's getting harder than ever to score from there."

The boys howl, and it's good for the spirits.

Miss Purdy turns again to Mike who has been enjoying Bert's discomfort. "As captain and coach you should have protested that goal," she says severely. "You didn't see him in the goal crease, did you?" Mike admits he didn't. "That's the trouble with a playing-coach," she continues, "and from now on there isn't going to be a playing-coach."

Mike's mouth suddenly resembles Shorty's goal, and I suppose mine isn't tight shut either.

She places a foot on the bench, and presses both hands down on her knee. "I've known you boys since you were in ankle socks," she says. "I've

LADY COACH

by CLIFFORD SHELTON

his right to talk with a lady when she comes to the dressing room.

I begin peeling off my extra sweater, and thinking just how lucky Mike should

watched every game of hockey you've played. The Carnwood Bugle has fought for a rink, for a hockey club, and got them. Then Mayor Dunsworth donates a cup. What happens? You go out there and let the Fern Valley All Stars knock you down for a score of ten to one."

"The referee was crooked," Midge Bakken protests. Midge is no bigger than a grasshopper, and our star center.

"Fiddlesticks!" returns Miss Purdy quicker than a flash. "You're digging an alibi. The fact is the All Stars skated you into the ice, and you may as well admit it."

We did—reluctantly.

"What you boys need is a new coach." She holds up her hand to silence the protest. "I know—Mike's okay and all that—but he can't run the whole show."

"But where—?" I interrupt.

"Tomorrow morning at eight you report for practice."

"Eight!" Shorty yelps. "I don't get up till nine."

She ignores him.

"Is the Bugle getting us a coach?" Mike asks, a little on the belligerent side.

She gives us all the eye. "You've got a coach," she snaps. "I'm it."

There is a long two-minute silence after she leaves the dressing room. Then Mike explodes. He comes out of his sweater like a rocket leaving the sands of New Mexico. He

slams the floor with his stick. I can't remember all the words he uses, but they are to the effect that he resents Miss Purdy as our new coach. "She runs everything and everybody in the town," he complains after becoming (Please turn to page 66)



Plant Breeders At Work

SIR WILLIAM GAVIN, writing in *The Journal of the British Ministry of Agriculture*, has said that the average yield of wheat in Britain was only eight bushels per acre in the year 1350. Two hundred years later, in 1550, the average yield was 15 bushels per acre. From then on, yield increases were as follows: 1750, 20 bushels; 1850, 26 bushels; 1900, 30 bushels; and 1950, 36 bushels.

What is important about these figures is that while wheat yields increased 18 bushels in the 500 years between 1350 and 1850, they increased a further 16 bushels in the 100 years between 1850 and 1950. Even more striking perhaps is the comparison of this 16-bushel increase in the last century, with an increase of only 11 bushels per acre in the 300 years from 1550 to 1850.

Sir William asks whether our great-grandchildren will wonder why we who are farming today were content with such small yields. "Most assuredly they will," he says. "The evidence of history points to it."

This more rapid increase in production coincides with the beginning and subsequent growth of farm science. Many factors have contributed to our increasing efficiency in production. The value of commercial fertilizers was first discovered a little over 100 years ago. Mendel's Law of the inheritance of plant and animal characteristics was announced to the world in 1866, then forgotten until it was rediscovered in 1900. The first successful gas tractor made its appearance in 1892. These, and many other important beginnings, take a long time to develop, and it is entirely reasonable to say that by far the larger part of any increases which have occurred in the last 100 years have taken place in the first half of the twentieth century.

IT was in this period that the whole science of plant breeding began, and the development of new varieties of farm crops occurred. Mendel's Law gave us knowledge of the existence of dominant and recessive, or submerged, characters. An example is that of horns on cattle: when a pure breed such as the Aberdeen-Angus, which has no horns, is crossed with other cattle such as the Shorthorn, which carry horns, the hornless character is dominant over the horned character, which is called recessive because it disappears. Mendel also explained how the various characteristics are segregated in the offspring, following a cross between two purebred plants or animals. Later, U.S. investigators discovered that the inheritance of certain characters was linked with sex, as, for example, the char-

acter of egg yield, which is transmitted from a hen through her sons, and from them to their daughters. It was discovered, too, that the actual carriers of inheritance were minute rod-like 'bodies' found in the cells of plants and animals, and that these tiny structures in nature come singly and in pairs, in different parts of the organism; also, that the number of pairs, while the same in all plants of the same type or species, varies between types. Thus, the basic number of chromosomes, as these minute bodies are called, is seven pairs in quite a few kinds of plants, including wheat, barley and rye. Durum wheat, however, has 14 pairs of chromosomes and our common-bred wheats, such as Thatcher, have 21.

At the University of Saskatchewan, researchers Shebeski and Jenkins are tackling some basic problems in cereal breeding

by D. W. NASH

Further research led to the discovery that these rod-like chromosomes, which carry all of the plant characters, appeared to be composed of segments, which the scientists have named genes, and are responsible for the inheritance of single or small groups of characters. Sometimes, as in stiffness of straw, yield, quality, or resistance to wheat stem-rust, two or more genes may be involved. This led research workers to try and segregate the inheritance of individual characteristics so as to secure

Right: The wrapped heads have been cross-fertilized. Below: Dr. Jenkins (right) and Prof. Shebeski discuss a fine point in barley breeding.



Note this stiff-strawed barley which Prof. Shebeski has marked in the irradiated Montcalm seed area at the University of Saskatchewan.

O'Mara found that it was possible to exchange one of the seven rye chromosomes for one of the 21 wheat chromosomes, without interfering with the fertility of the resulting seed. This achievement has put another tool into the hands of the plant breeder. Still another aid was secured some years ago when it was discovered that the drug colchicine could be used to double the number of chromosomes in a plant, by treating the seed.

NOW the atomic age has arrived, and with it have come all kinds of possibilities in agriculture, some of them of great interest to the plant breeder and geneticist. Last fall, I spent an afternoon of great interest with Professor L. H. Shebeski and Dr. B. Charles Jenkins, on the plots of the Field Husbandry Department of the University of Saskatchewan. Professor Shebeski is in charge of the improvement work on barley, oats and rye, and some basic research which includes an exciting project involving the irradiation of barley. Dr. Jenkins has charge of the improvement work on wheat, flax and safflower, and the basic research on wheat genetics. Jointly, they have undertaken special research on the genes associated with rust resistance.

As far as is known, Dr. Shebeski's irradiation project is on a larger scale than that done anywhere in the field of plant breeding. It is based primarily on two facts. The first is that barley is naturally a weak-strawed plant, and strength of straw is the one quality lacking in Montcalm; also, that lodging, due to weakness of straw, has been demonstrated by Dr. P. J. Olsen of the University of Manitoba, to result in loss of yield, and the lowering of malting quality, the yield decreasing more or less according to the amount of lodging.

Second, irradiation, which is the exposure of seed to rays such as the X-ray in regulated quantities, has been studied in Sweden since the mid-thirties. In 1948 the research workers at Svalof published a book in which they stated that it was possible to produce stiff-strawed types of barley at will. This immediately caught the attention of Professor Shebeski and the irradiation project resulted.

Irradiation is based on the known fact that mutations, or sports as they are sometimes called, occur in nature. Something happens to change the normal behavior of the chromosomes in a plant, and something quite different results. One of the best known examples of natural mutation is the Red Delicious apple, which was originally discovered growing in a fence-row. The tree was purchased by a nursery and has since meant millions of dollars to the fruit industry of the United States and Canada. Irradiation produces mutations because, presumably, the bombardment of the seed by powerful rays disturbs the chromosomes and probably disarranges the genes.

At any rate, Professor Shebeski was faced with the need for a stiff-strawed Montcalm barley, the irradiation materials were available at the university, and he was enthusiastic. There was also the fact, as explained by Dr. J. B. Harrington, head of the Field Husbandry (Please turn to page 26)

further knowledge about them.

Sears, in Missouri, working with Chinese spring wheat, evolved a series of 21 aneuploid "lines," each one lacking a different wheat chromosome, an aneuploid being a line which has either less or more than the regular number of chromosomes. Plant breeders have also found that they can, with care, develop aneuploids with a complete pair absent, or with only one chromosome absent. These processes are very useful in assisting them to narrow down the search for knowledge of inheritance.

[Guide photo.]



AS they went out to the barn to milk, 15-year-old Steve wished with all his heart that he could do something to take the look of worry from his father's face. It was pretty grim, he thought. It was hard enough on a farm when everyone was well and strong, but his mother had been an invalid for months, and Jenny, his 13-year-old sister, had to do the best she could.

Now, Steve's elder sister, gay, laughing Sally, who worked in Mond's department store in the city, was going to be married, and Mom was insisting that Sally should be married at home.

When Steve's mother had her last bad spell, Doctor Winslow had said she should be humored in every way possible. There were a number of obstacles to this wedding business. To begin with, the road from the Denton's farm to the railroad at Lindford was full of mudholes, all 16 miles of it. The Perdera River was flooding, and the water was over the bridge at Carlton's Corner.

"They'll have to come across in a boat, I guess," said Steve, "like the people did the last time the old Perdera flooded. We can meet them this side of the river with the horses and the democrat . . ." He looked eagerly across the barn at his father.

Dad laughed and sounded a bit more cheerful. "I guess you want them to come, Steve, don't you?"

"Sure I do." Steve finished Molly and got up. Dad was milking June. They only had two cows. We should have more, thought Steve. We should have a lot of things we haven't. But sickness costs money. Dad wasn't a big, husky man, either. He was skinny and tall and tired easily.

"Sure, I'd like them to come," said Steve again, "but Mom wants them and that's the main thing. Sides, Jim's a nice guy. I like him."

They had all liked Jim when Sally had brought him out to the farm one week-end. The trouble was that they hadn't known Sally and her boy friend were coming. No one had gone for the mail, and they hadn't got Sally's letter. Sally was disappointed and a little hurt. She had expected that Jenny would have had things fixed up better than they were. But Jim was grand.

"For goodness' sake, Sal, stop fussing," he had said. "What do I care how the house looks? I wanted to meet your folks, not the inside of a house."

Steve and Jim had slept together in the little tent that Jim had brought with him. Jim told the younger

boy yarns about hunting trips up North. Steve, wide-eyed and happy, suggested that Jim should quit working in a garage in town and come farming.

Jim laughed, his hazel eyes twinkling at Steve. "I guess Sal wouldn't care for the life; but I sure wouldn't mind living on a farm."

Jenny had liked Jim, too. She said he treated her as if she were grownup and a lady.

Steve said to his father, as they started to the house with the milk. "We'll fix the house up, Dad. Jenny'll work her fingers to the bone to make it nice, and so will I."

THEY really worked, too. Steve and Jenny stripped all the old paper off the living room wall and got some gay blue-and-white flowered wallpaper at the store. The pattern was difficult to match, but they did it. Jenny made some new curtains of blue stuff, and they painted the old linoleum blue.

by KATHERINE HOWARD



Sally



Jim

Dad carried Mom into the living room and set her on the couch. She watched them, and told them what to do. Her thin cheeks had more color in them than had been there for quite a while.

Then they calcimined the kitchen and painted the door and window frames ivory, and with little cream curtains at the windows it looked just like a picture in a magazine.

But when everything was just about perfect, a letter came from Sally. She said she had thought everything out. It meant a lot of work, a lot of trouble and expense. She had better be married in town, and couldn't Dad go in for the wedding at the court house?

Mom didn't say anything when Jenny read the letter aloud. Jenny had brought the mail. Dad was trailing a set of traces into the kitchen where he was going to mend them. He dropped the traces onto the floor as Jenny's voice faltered.

Then Dad muttered something, grabbed his old hat and jacket off the hook and went out. Steve saw him go past the window on Dolly, the black mare.

"Where's Dad going?" asked Mom weakly, from the bedroom off the kitchen.

"I think he's gone to the store," said Jenny from the window.

He came back in about half an hour. He went into Mom's room and sat down on the bed. "It's all right, Sue," he said gently, "they're coming. I phoned Jim at his rooming house. They're coming on Monday. They're going to be married right here on Tuesday. I have to get word to Reverend Dixon at Lynwood and ask him to be sure to be here. That Jim is a great boy."

Jenny stared at Steve, her eyes sparkling. Mom closed her eyes and went to sleep. Dad fixed up the harness and Steve helped him to carry it back to the barn.

"What's the matter with Sally?" Dad looked old and tired in the moonlight. "Is she ashamed 'of home, Stevie?"

"No," said Steve quickly. "She's good and sweet. She loves it here . . . but she knows how things are . . ."

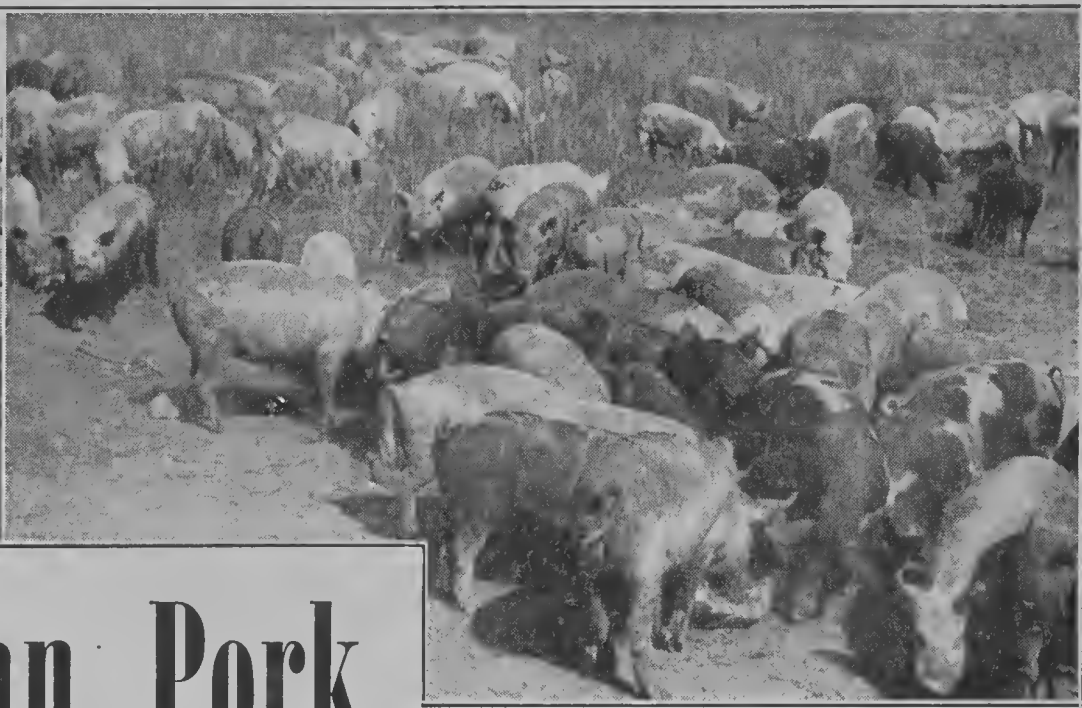
"You'd think home would be as good as a minister's parlor or a clerk's office." Dad hoisted the harness over the peg.

"Aw, Dad, she just wants to save us worry and trouble. She knows Mom can't do anything, and Jen's just a kid. I bet Sally's miserable as anything to think she couldn't be married at home."

"Well, it's settled," said his father. "They will be out on Monday's train. Jim's a great boy. I sure wish he was out here for good, farming with us."

Steve wished it, too. He said, "We'll go and meet them on Monday, Dad. Dolly and Beauty will make it all

(Please turn to page 58)



Australian Pork for Britain

by L. T. SARDONE

If Canadians give any thought to the source of Britain's meat supply they think in terms of Argentine beef, mutton from Australia and New Zealand and pork from many countries, with Denmark leading the field of pork suppliers. It will come as a surprise to know that Australia is entering the lists as a serious competitor on the pork market. The following story tells how it is coming about

AT the end of March, 1950, Queensland, with a total of 389,000 head, possessed more pigs than any other Australian state. It was fitting, therefore, that this state was selected to supplement the supply of Australian pig meat to Britain.

The Queensland Pig Scheme has just completed its third year of existence and its first year of actual production. Conducted under the auspices of the Queensland-British Food Corporation, a semi-governmental body, it consists of two piggeries at present, situated at Maura and Bajool, Central Queensland. Both will very soon carry a maximum complement of 200 breeding sows with an anticipated yearly output of 2,300 baconers of which, to date, more than 800 have been exported.

This £A11,000,000 project was first put forward as a grain sorghum source of supply for Britain, with the aim ultimately of raising pigs. Until such time as the piggeries were using a big proportion of the grain, it was considered that if the surplus were exported to Britain, it would be just as easy to produce pigs there as in Australia.

In May, 1948, the Corporation went into the sorghum-growing areas at Peak Downs, and commenced plowing in ground that had never previously had a crop on it. By March, 1951, 66,000 acres were under cultivation and over 30,000 tons of feed sorghum had been exported to Britain, despite shipping space shortages.

Acute building difficulties were experienced during the construction of the first piggery at Maura, on the Dawson River 100 miles from Rockhampton, but by 1949 this was well under way. It covers 480 acres, with 100 in actual use.

This piggery has 50 farrowing pens in line, of wood construction and concrete flooring. Each pen has a roofed area about eight by nine feet. A similar area in front is used for feeding and watering and at the rear is another four feet for use as a dunging race. Each pen opens onto a small paddock in which green fodder is grown.

THE Corporation's second piggery at Bajool, some 20 miles from Rockhampton, was put into operation early in 1950. The selection of this site was a fortunate choice, for here the general lay of the land makes for well-drained paddocks with the farrowing pens on a ridge with a fall in two directions.

The layout has been based on that of Maura, with concrete drains and walks, but whereas the Maura farrowing pens are in a line, the Bajool pens are in rows each with its plot of alfalfa in front, where it can be cut easily and fed to the sows.

As at Maura, the floors are concrete with a veranda to the east, providing space for a creep

feed and watering troughs. The shed proper has farrowing rails, and behind is the dunging race. There are now 50 pens ready for use with paddocks for weaners, baconers and sows. Water is obtained from the weir on the Gladstone-Rockhampton road which also acts as a causeway for traffic.

Bajool, the bigger of the two piggeries, covers 680 acres, but only a portion is, as yet, in actual use. Mr. C. R. Meade, foreman, is a Kentish man with a lifetime experience in Britain where he had his own stud and later, after it was bombed out, undertook the task of building up run-down piggeries. In Australia just on two years, he has taken a pride in Bajool and his boast, Bajool is more park than piggery, without flies or smell, an example of how pigs should be kept, is no mere idle one. He also adds that pig raising in Australia is a pleasure compared to the difficulties confronting the English pig farmer.

Fencing, farrowing pens and water supply constitute the three major items of expense so far encountered which, taken altogether, represent

Left: The piggery at Maura has 50 farrowing pens in line, complete with concrete floors and feeding and cleaning areas. Above: As the variety of colors above would indicate, the pigs are crossbred.

something in the vicinity of £A60 per breeding sow; very satisfactory when compared with the British cost of around the £200 mark. The large extent to which grazing can be used throughout the year in Queensland substantially lowers capital costs.

Each piggery has a Ferguson tractor and implements in operation which cultivate the grazing paddocks and irrigation areas for crop growing. Because of frequent heavy rains, however, irrigation has not been called upon as yet to any great extent, although the plant is installed. There is a manager's cottage, staff accommodation, feed sheds and sheds for handling pigs for drafting, loading and oiling. Self-feeders and Fordham automatic drinking bowls, a British product, operated by the pigs, are also installed in the grazing paddocks, avoiding the use of troughs with resultant mud.

With very mild winter conditions prevailing in central Queensland, it is not found necessary to pen the pigs at any stage after farrowing, considerably reducing cost of breeding. Bush shelters have been put up, at little expense, in most of the grazing paddocks for the use of pigs during the hotter hours of the day; handling is done during the mornings and evenings on very hot days.

Wild pigs, that is, actually domesticated pigs gone wild, have broken into and are at present feeding in the Corporation's sorghum-growing properties further west of the piggeries. This, together with the fact that Queensland's dry winter conditions prevent ground rot of the grain, induced a recent experiment in range fattening on the actual sorghum. In other words, let the pigs harvest their own sorghum, in similar manner to hogging down corn as practiced in the U.S.A.

High hopes are entertained for the success of this experiment, as it will result in the elimination of costs of harvesting, bags and bagging, together with that of crushing, mixing and transport, more than offsetting the cost of railing pigs to market over the further distance of 100 miles. It will also permit of lower labor costs on each piggery.

AN approach to what and what not to do in the breeding of pigs could, with advantage, be based on fundamental principles as adopted at these Queensland-British Food Corporation piggeries.

With the prime object the production of baconers in the
(Please turn to page 82)



Self-feeders of the type illustrated have been found quite satisfactory.



An Eye to the Future

Long term planning helps you to raise more than the average for your area. This planning for the future should especially be applied to the five basic factors of farming. They are: Land, Livestock, Labour, Capital and Size of Farm or Farm Business. Every farm is different and has its individual problems. So it's up to you to make each factor work hard for you.

Many farmers have found it helpful to talk with their Commerce manager. He represents a bank that has for many years taken a keen interest in promoting better farming and in looking after Canadian farmers' banking needs. Why not pay him a visit?



The Canadian Bank of Commerce

"The Commerce"

Politics Engage B.C.'s Attention

All the indications point to a hectic session in the B.C. legislature, with major parties jockeying for advantageous political positions

by CHAS. L. SHAW

THE signs may be less obscured by the time British Columbia's legislature gets through its session commencing February 19, but through the present political murkiness there seems to be a fairly clear indication already of a provincial election in the west coast province this year.

Premier Byron I. Johnson has been doing his best to delay the contest, not so much because he dislikes the idea of another test of popular sentiment but because he realizes that at the last election he was given a clear mandate to continue the coalition. He feels that if he were to sanction a breakup in the ten year alliance with the Conservatives now he would be breaking faith with the people who voted for coalition. The normal life of the present legislature extends into 1953.

Rank and file Liberals are itching for an election and as a forerunner of that they want almost immediate termination of the coalition. They demonstrated this feeling at the recent meeting of the executive when it was recommended that the party hold an early convention and call off the coalition without further delay.

Since Premier Johnson hadn't heard about this recommendation before it was read to the executive by Harry Perry, a former member of the cabinet and lifelong Liberal who cannot abide continuance of coalition, he was understandably nettled. He said he should at least have been consulted, and that the idea of an immediate break in coalition was intolerable. When the election was held, he said, Liberals and Conservatives would vote as separate groups, and election machinery was set up with that intention. But he didn't care for the suggested hurry-up tactics at all. Because Premier Johnson is still personally popular and had logic on his side, the executive upheld him pretty emphatically and a few hours later Perry resigned as chairman, saying that his health would not permit continued activity of that kind.

Nevertheless, the incident confirmed the impression that there is dissension among the Liberals as well as among the Conservatives, the cleavage in the latter group having been demonstrated by the walkout of two of its members in the legislature at the last session because they wouldn't go along with coalition any longer. One of these members, W. A. C. Bennett, one of the most ambitious B.C. politicians, has since hooked up with the Social Credit group and may be its leader in the next election, whenever it is held, with a full slate of Social Credit candidates for the first time in the province's history.

THE Social Crediters hope to profit from the wonderfully successful administration of the Manning government in Alberta, aided and abetted by the spectacular increase in petroleum and natural gas production which has contributed so much to the foothill province's treasury. Certainly, the Social Credit group in B.C. is soft-peddling the original Aberhart-Doug-

las theories and slogans of their party; it is emphasizing what Mr. Manning and his colleagues have been doing.

It will be interesting, when the campaign actually gets under way, to note how Liberals and Conservatives each endeavor to take credit for the achievements of coalition and try to disown coalition's misdeeds. On its record, coalition has given British Columbia first rate administration, but it has made mistakes, especially on the psychological side. The effect of hasty adoption of hospital insurance, for instance, lost more support than anything else, even though in principle it was and is generally acknowledged to be a fine idea. The coalition also has lost friends because of its stubborn resistance to entreaties for liquor control reform, and as in nearly all governments that have been in power as long as this one has there is an inclination on the part of some members of the cabinet to regard themselves as omniscient.

One thing coalition may claim credit for is the high reputation for stability that British Columbia has achieved in recent years, resulting in an unprecedented investment in industry. The Aluminum Company of Canada might have embarked on its half-billion-dollar project at Kitimat if the coalition had not been in power, but it would probably have shied away had the government been in the hands of socialists with their ideas of state control over industry based on natural resources (waterpower in this case) and it is just as certain that Celanese Corporation of America would have given more than second thought to its \$100 million expansion (forest resources in this case) if it hadn't been able to come to terms with a so-called free enterprise government.

Celanese Corporation, which launched its big pulp mill enterprise at Prince Rupert more than a year ago, announced its second big investment in British Columbia last month—a multi-million-dollar wood utilization program for Castlegar, near Trail, using power to be developed by Consolidated Mining and Smelting Company's new \$30 million hydro-electric project on the Pend Oreille river. The actual start of this enterprise depends on approval by the government of the Company's application for a forest management licence extending over three million acres, but there is little doubt that this will be granted.

Incidentally, during the coming session of the legislature the government is likely to come in for some criticism over these forest management licences which have the effect of setting aside large blocks of timberland for the exclusive use of the companies which are able to give assurance that they will be utilized. It is being charged that the government's policy favors the big, well-financed corporations and that the little man is being squeezed out of business. The trend in the forest industry lately has been toward concentration of ownership in the hands of a few, and while the government can justify this on the ground that it is the big corporations that have the money to ensure economic utilization,

the old cry of monopoly always rallies an outspoken following.

THOUSANDS of Europeans and other racial groups are crowding into British Columbia these days seeking jobs in industry; the government, through its department of education, is trying to make their absorption and adjustment easier by providing special classes in English, Canadian geography and history for them. More than 5,000 of these new settlers have applied for the courses, and everyone seems quite happy over the results.

This province has had a bitter experience in the past with unassimilable groups, and it wants to avoid a recurrence. The outstanding example was provided by the Doukhobors, who are still a problem after half a century of residence in Canada. There was another difficulty before World War II when nearly the whole of British Columbia's Japanese population was concentrated in a single area, creating what was believed at the time to be a serious hazard. The idea now is that if the new residents are given every opportunity of learning the language and the customs of the people there will be less inclination to form little racial and nationalistic blocs and more encouragement for harmonious mingling with the population as a whole.

One of the subjects being offered these immigrants for study is farming, and in this connection special courses are now being offered, too, to "rural young people" at the University of British Columbia. The students will receive practical instruction in agricultural subjects, farm mechanics, cooking, handicraft, rural organization work and citizenship. This course is entirely separate from the regular university training. The students receive their instruction free, and applications have been received from sincere young farmers from many sections of the province.

There has been considerable controversy over the operations of the provincial milk board and its authority to fix and maintain prices. Critics claim that the board should be scrapped and that dairy prices should be allowed to find their own level; that the dairy industry would be more prosperous without artificial controls.

The issue will probably be threshed out during the legislative session. Meantime, the government takes the view that milk is classed as a public utility in British Columbia and that elimination of controls would lead to chaotic conditions.

Meanwhile many theories are being offered to explain the decline in the province's milk production, which amounted to about ten per cent last year. One is that when the general level of business and employment is down farmers try to produce more of their own food, resulting in a larger surplus for sale, and B.C., of course, was never more prosperous than it is today. Other factors were drought, high meat prices and difficulty in keeping young people on the farm.

One favorable report from the dairy industry, however, is that B.C. has developed one-third of Canada's superior sires in the Jersey breed, with only 12 per cent of the nation's Jersey breeders.

And while we're on the subject, coloring of margarine is coming up for debate in the legislature.



For toughest drawbar work! Here, a McCormick W-9 teams up with a McCormick No. 3 Bar Tiller on a stubble mulching job.

Cut your field time in half with a McCormick W-9 or WD-9 tractor



The McCormick W-6 supplies ample power to pull three stubble plows — or a 10-foot field cultivator — or drive a 28-inch thresher. In one working day it will plow 9 to 13 acres, disk 30 to 40 acres, see (14 foot drill) 40 to 60 acres, cultivate 30 to 40 acres and peg tooth harrow 80 acres.



The McCormick WD-6 is a Diesel on rubber — does all the work of a McCormick W-6 on low-cost diesel fuel, cutting operating costs to the bone. Equipped with famous all-weather starting system, the International Diesel engine not only uses cheaper fuel but uses less fuel than a conventional engine.



The McCormick W-4 is a 2-plow tractor. Its average daily work capacity: plowing, 7 to 12 acres; disking, 25 to 30 acres; seeding (10 foot drill), 35 acres; peg tooth harrowing, upwards of 70 acres; cultivating, 20 to 25 acres; combining (depending on width of cut), 10 to 25 acres.

A big, nimble McCormick W-9 or WD-9 tractor will plow an acre in 30 minutes! It will handle all your field work in half the time it takes with a 2-plow tractor, doing it all in days instead of weeks. Furthermore, it is mighty comfortable to drive and easy to handle. With the McCormick WD-9 Standard tractor you get all the money-saving advantages of an International Diesel — easy all-weather starting — peak power, peak performance, at down-to-earth cost for fuel and upkeep.

Actually there are five McCormick Standard tractor models to choose from, enabling you to select the type and size best suited to your farm. Regardless of the one you choose, you're assured of plenty of sturdy, dependable power at drawbar, belt and power take-off. You get other advantages too — convenient controls, operating comfort, modern styling, five forward speeds and accessible unit design.

Your International Harvester Dealer will gladly help analyse your power requirements, and arrange a demonstration right on your own farm. See him the very next time you're in town.

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IN TRACTORS... IN CARS...
IN TRUCKS...

PERFECT CIRCLE'S
NEW 2-in-1 Chrome
PISTON RING SET
doubles the life
of cylinders, pistons and rings!

PLATED WITH
SOLID CHROME

Optional HiPressure
spring packed with
each Chrome Oil
Stopper, for positive
oil control even in
badly worn cylinders.

IT'S TRUE! Perfect Circle's amazing 2-in-1 Chrome Set establishes a new high standard of piston ring performance! It's actually *two sets in one*... because solid chrome plating on both top compression rings and oil ring rails assures *more than twice the life* of ordinary sets!

Yes, whether cylinders are slightly or badly worn... tapered or straight... round or out-of-round—the 2-in-1 Chrome Set gives positive oil control and sustained power in every type of service. Never before in piston ring history has such improved performance been available with so little difference in cost!

If you do your own engine overhaul work, install Perfect Circle's 2-in-1 Chrome Set for new power, new economy, new dependability. Or instruct your Doctor of Motors—your favorite mechanic—to use it in your car, truck or tractor. He'll respect your judgment!



Perfect Circle
The Most Honored Name in Piston Rings



Dr. G. S. H. Barton (left), Rt. Hon. J. G. Gardiner, Mrs. Barton and Mrs. Gardiner, when on the occasion of Dr. Barton's retirement, the Minister presented him with a radio given by his colleagues and associates.

British Food Subsidies

FOR the year 1950-51, the United Kingdom expended £400.3 million as the net cost of food subsidies. Of this amount £184.4 million was expended as subsidies on imported foodstuffs. The gross cost of subsidies was £441.4 million, but of this amount £41.3 million was recovered from surpluses on various foods. From the net total figure, the actual cost of subsidies for foods is arrived at by deducting certain items such as fertilizers, £11 million; animal feeding stuffs, £3.5 million; attested herds scheme, £2.7 million; and the cost of potatoes sold for livestock feed.

In reporting on the cost of subsidies, the Ministry of Food accounts were recently discussed by the comptroller and auditor-general, who drew attention to the fact that due to the increased use of combines, the amount of wheat sold immediately after harvest was beyond the capacity of the flour milling industry. Drying of grain was necessary to keep it in good condition, and in 1950-51, 166,217 tons were dried at a cost of £464,324. For the same reason, additional grain storage places and extensions had been built by the Ministry of Works and the estimate of costs for 1951 on this account was given as £2,500,000. In 1949, the ministry incurred a loss of £882,283 due to the deterioration of new potatoes through delays in transit, while £50,000 was lost through the condemnation of surplus eggs put into cold storage in the spring of 1950.

International Plowing Match

J. A. CARROLL, assistant deputy minister of agriculture for Ontario, and for a number of years secretary-manager of the International Plowing Match and Farm Machinery demonstration held annually in that province, is presently visiting the British Isles, Germany, Denmark and Sweden, as tour manager for the winners of the Esso Transatlantic class at the 1951 plowing match. E. Eugene Timbers, at 18 the youngest man ever to win the horse section of this class at the International Plowing Match, and 24-year-old Norman S. Tyndall, winner of the tractor section, are the winners of this six-week trip, which will include England, Wales, Scotland, Northern Ireland, West Germany, Denmark and Sweden. The two

Canadian champions will participate in two plowing events in the United Kingdom during this tour.

During this trip also, a meeting will be held in London, England, to discuss the possibility of creating a world plowing competition, and Mr. Carroll has been authorized to speak as representative of the Ontario Plowmen's Association. Already apparently, Canada, in addition to eight European countries, has shown some interest in such a competition, which would probably involve a standard plow for competition, a universal set of rules, and some satisfactory plan for rotating plowing sites.

Dr. Barton Retires

DR. G. S. H. BARTON, deputy minister of agriculture in the federal government from 1932 until 1949, and since then special assistant to the Minister of Agriculture, has retired.

Dr. Barton was born at Vankleeck Hill, Ontario, on June 23, 1883. After attending public and high schools, he was graduated from the Ontario Agricultural College in 1907 with the degree of B.S.A., later receiving a doctorate in agricultural science from Laval University. After graduating from O.A.C., he became lecturer and assistant professor of animal husbandry at MacDonald College, professor in 1911, and dean of the faculty of agriculture in 1925. In 1923, His Majesty The King created him a C.M.G. and in 1929 his long service on behalf of agriculture was recognized by the Quebec government which created him a Commander Agricole Merite, the highest agricultural honor of the province.

For the period 1920-23, Dr. Barton was vice-president of the Canadian Society of Technical Agriculturists, and president 1923-25. From 1928 to 1930, he was president of the Eastern Canadian Society of Animal Production.

Since the holding of the famous Hot Springs Conference in 1943, at which the Food and Agriculture Organization of the United Nations was projected, Dr. Barton has been perhaps most widely known for his connection with F.A.O. He played an important part in its formation at the Quebec Conference in 1945, and since that time has headed the Canadian delegations to and participated

actively in many international agricultural conferences in Canada, United States and Europe. In November, 1951, the federal Minister of Agriculture, the Rt. Hon. James G. Gardiner, gave a dinner in his honor to the delegates from other countries at the F.A.O. conference in Rome; and his retirement was marked in Ottawa, at the beginning of January, by a reception and presentation attended by his friends and associates from all branches of government and by representatives from many other countries.

Soviet Farming

AN overseas report jointly issued by the Departments of Agriculture and Trade and Commerce at Ottawa, and prepared by Dr. E. Jaska, now of the Economics Division and formerly an official of the Estonian Department of Agriculture, states that in 1950 Soviet Russia merged more than half of its collective farms into "collective farm settlements." These each contain approximately 30,250 acres, of which about 18,500 should be arable, and also 1,000 head of cattle, 8,000 sheep, 280 horses and 400 hogs. Each will contain from 500 to a few thousand families. The aim is said to be a high level of production ensuring a build-up of reserves and the saving of workers for other tasks. Dr. Jaska writes that "the manpower problem appears to be the more important, since the collective farms, which have always been regarded as reservoirs of manpower, are to be mechanized at an increasing rate in order to make a greater part of the farming population available to industry."

The Soviet Union reduced prices in 1950 and 1951, the most important reductions occurring in 1951 and concerning food. Bread, flour and similar products were cut 15 per cent, as well as all types of meat, while milk, ice cream and eggs were cut by ten per cent. In this connection, Dr. Jaska writes: "It should be remembered that two-thirds of the population consists of collective farmers who have to bear the burden of financing the Soviet economy. According to official pre-war data, 60 per cent of the state revenues was drawn from the turnover tax, and over 70 per cent of this tax was derived from agriculture. In 1950, the contribution provided by agriculture was about the same as pre-war . . . The income of farmers will be reduced by seven billion rubles in 1951 . . . The government's price-cut policy has thus added additional weight to the massive burden borne by farmers in 1951. In addition, the cuts may be considered as a means to lessen the farmer's interest in maintaining individual plots."

Danish Hogs

AS of September 8, 1951, Danish hogs numbered 3,277,000 and were 4.5 per cent fewer than the total for the same date in 1950.

In the first half of 1951, Denmark exported 118,000 tons of bacon, for which she received approximately \$81 million. This export was about 23 per cent above that for the same period in 1950. Denmark provides 64 per cent of the United Kingdom bacon supplies, and for the current contract year Britain will pay about \$38.60 f.o.b. Denmark for the first 264 mil-



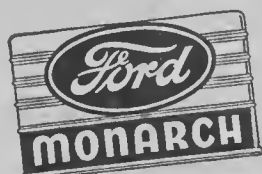
MATCHED POWER

The Ford Tractor and the great and growing line of Dearborn Implements are "Power-Matched" for peak performance. And only the Ford Tractor has the Proof-Meter to give you constant proof of correct, efficient power delivery—a "5-in-1" instrument to show you at a glance tractor ground speed, engine speed, P.T.O. speed, belt pulley speed, and tractor hours worked.

With a Ford Tractor, you have the right power for light *and* heavy jobs—nimble power for rapid transport and light work—real pulling power for extra-heavy operations. Advanced design and implement mounting have made the Ford Tractor a versatile year-round tractor for every farming need.

HYDRAULIC POWER

With its *built-in* hydraulic system and three-point linkage, the Ford Tractor, under heavy operating conditions, becomes a heavy-duty tractor. Increased draft throws extra weight on the tractor's rear wheels, thus providing extra traction and maximum power delivery—all the power you need, when it's needed. Ford Hydraulic Touch Control reduces operator fatigue, increases safety. Implements are attached quickly and easily—transported to and from the field in a hurry. No other tractor hydraulic system is as smooth, positive, or quick in its action.



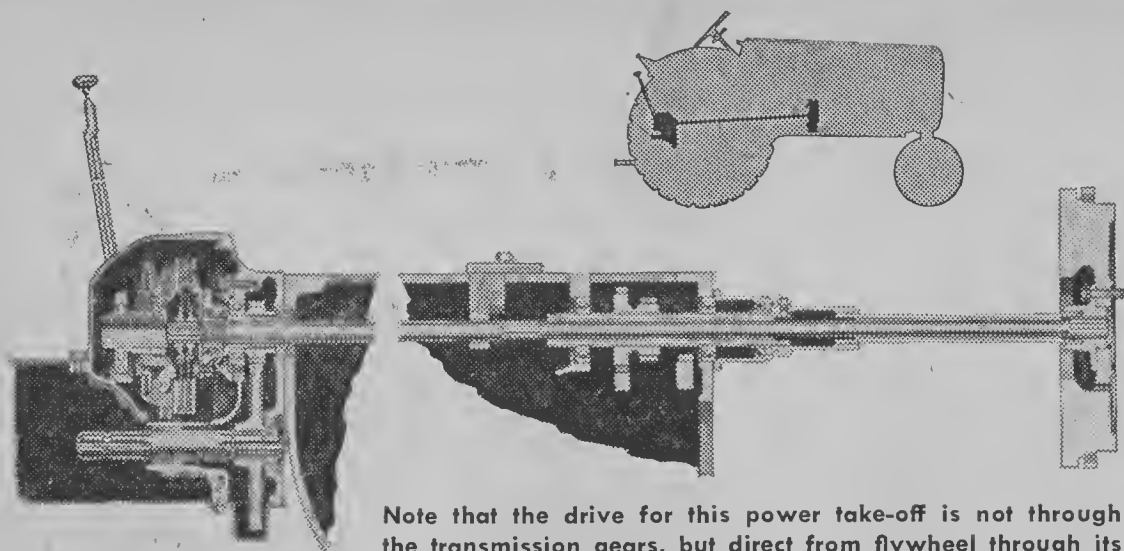
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Ford Farming

LESS WORK . . . MORE INCOME





Note that the drive for this power take-off is not through the transmission gears, but direct from flywheel through its own separate clutch and reduction gear. More power at the take-off and constant speed regardless of gear in which tractor is driven enable you to better meet varying field conditions.

the **BIG** Feature of a **BIG** Tractor!

Sure, the Oliver "77" and "88" are **BIG** tractors. Farmers have long known that an Oliver has what it takes for the toughest of farm jobs.

But these tractors also have one **BIG** additional feature which makes any tractor not having it—obsolete. This **BIG** feature is the Direct Drive Power Take-Off. This additional feature alone is sufficient reason for your next tractor being an Oliver.

Direct Drive Power Take-Off means that the drive for Combine, Corn Picker or Sprayer is independent of the tractor transmission or clutch. When you change gears, the power take-off speed does not change nor is power interrupted. A

separate clutch for this power take-off enables you to start or stop operation of the driven machine quickly and conveniently.

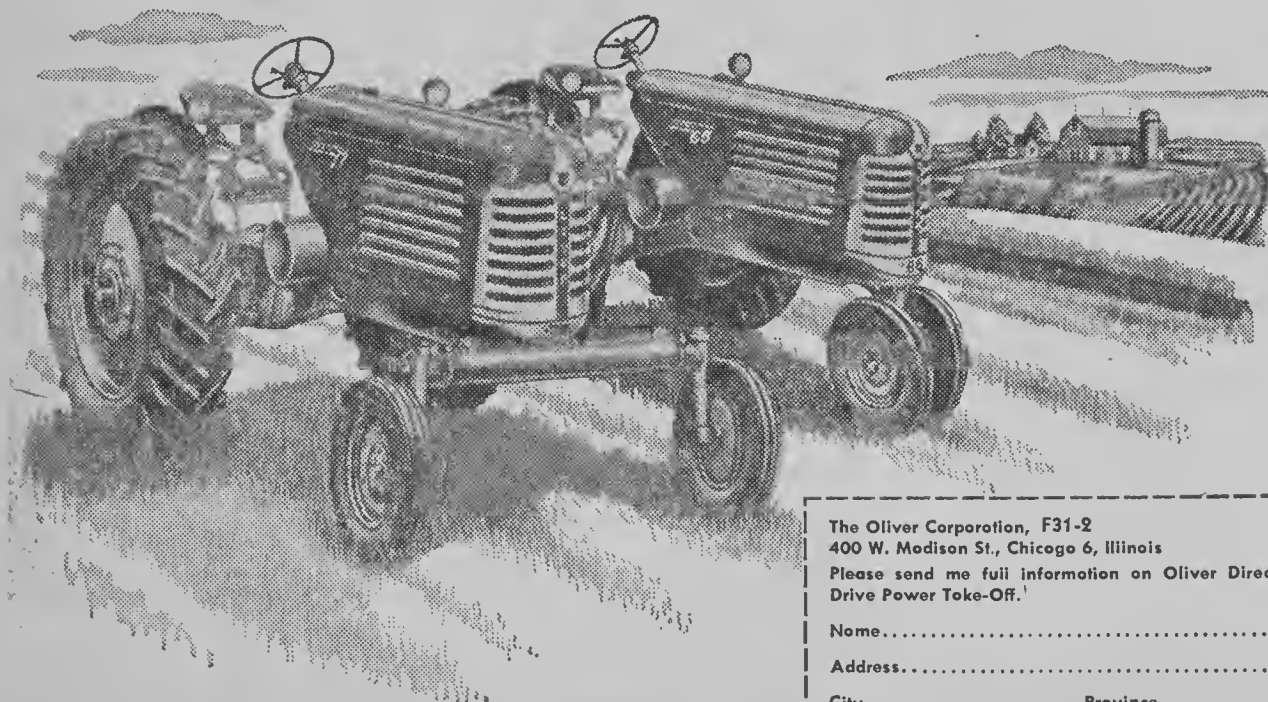
Why content yourself with any tractor not having this **BIG** feature? The Direct Drive Power Take-Off is just more proof that "you get more for your dollar from Oliver." The Oliver Corporation, 400 W. Madison St., Chicago 6, Ill.

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I form..... acres.

lion pounds delivered in the year beginning September 3, 1951. For any additional supplies, she will pay 29 per cent more, or \$44.09 per 112 pounds. Denmark expects this year to ship to Britain at least 140,000 tons. Like the Canadian wheat producer, the Danish bacon producer will not be able to sell at these prices in the domestic market. Domestic bacon prices will remain at levels fixed in the spring of 1951.

All-Out U.S. Production

THE U.S. Secretary of Agriculture, Charles F. Brannan, recently announced U.S. farm production goals for 1952. "American farmers," he said, "are being asked in the 1952 production goals for the greatest achievement in their fine history."

Explaining the emphasis on feed grains and feed crops, the Secretary said: "The nation needs urgently to rebuilt its over-all feed reserves to safe levels. Because of bad weather in 1951, stocks at the end of the 1951-52 feeding year would be insufficient to tide us over a poor crop such as occurred in 1947, when shortages of feed forced liquidation of livestock. They wouldn't even pull us safely through another year like 1951-52."

"For two successive years, our livestock have been consuming more feed than we have produced. Greater feed production from both grains and forage must be achieved, if we are to avoid forced reduction of livestock numbers."

The program calls for 3,375 million bushels of corn from 89 million acres; 205 million bushels of sorghum; 290 million bushels of barley; and fewer oats, unless these are needed for legume and grass seeding. "On the average," the Secretary said, "corn produces at least two times more feed per acre than oats in the corn belt."

U.S. government support price levels have been announced for 1952. Those for corn, upland cotton, rice, wool, milk and butterfat, have been set at 90 per cent of parity as at the beginning of the marketing year; soybean support at \$2.56 per bushel, which is also 90 per cent of parity as of December 1, 1951.

Wheat, also set at 90 per cent of parity as of July 1, 1952, will not be less than \$2.17 per bushel, with oats at 78 cents, barley at \$1.22, rye at \$1.42, and flaxseed at \$3.77 per bushel. These prices are equivalent to 80 per cent of parity as of September 15, 1951.

New Zealand Butter Imports

THE Federal Minister of Agriculture announced in mid-January that 2,500,000 pounds of New Zealand butter, purchased from the New Zealand Dairy Products Marketing Commission under a 5,000,000-pound option, will be delivered early in February, or early in March, in Canada.

Butter production during October-December was 7.1 per cent higher than during the same period in 1950, and butter disappearance was 3.8 per cent less. Consequently, stocks as of January 9, 1952, were six million pounds higher than on January 1, 1951. In February and March, 1951, five million pounds of butter had been imported, but the minister felt reasonably certain that the 2.5 million pounds now arranged for 1952 would provide adequate supplies to meet Canadian demand.

Tenant Protection

THE Saskatchewan government will introduce legislation this year to protect tenant farmers who have been unable to harvest their 1952 crops before the termination of their leases. Attorney-General J. W. Gorman announced in January that tenants would be given the right to re-enter land between May 1 and June 15, to cut, thresh and remove any crop which remains uncut, unthreshed, or undelivered because of unfavorable weather conditions, unavailability of threshing equipment, shortage of storage accommodation, or inability to sell. Tenants must not cause avoidable damage, and final decision in case of any disputes between landlord and tenant will be given by the Mediation Board.

Pig Hatchery

THE first litter of pigs born at the co-operative pig hatchery organized by farmers in the Tisdale, Saskatchewan, district last spring, was born in September. As of January 15, the co-operative had purchased 65 bred sows, of which 11 had farrowed. More applications for weanlings had

been received than could be accepted at the time.

Thirty-eight farmer members have subscribed nearly \$4,000 in cash to the co-operative hatchery, which is organized on a share-capital basis. A minimum of ten shares, half paid in cash and the other half subscribed, at \$10 per share, is the basis of financing. There is no membership fee. Priority for distribution of pigs is based on the amount of share capital subscribed.

H. E. Chapman, director, extension services, Department of Co-operation in Saskatchewan, reports that the hatchery is located on the Caribou Co-operative Farm two miles west of Tisdale, and arrangements have been made for the co-operative farm to provide the management and labor necessary for the enterprise. Housing was secured by converting a large barn into farrowing pens. Purpose of the co-operative is to supply top-quality weanlings for commercial production. All sows are quarantined in special pens for four weeks before admission to permanent quarters, and each is examined for signs of disease by a veterinarian.



Tisdale co-operative pig hatchery pigs in quarantine quarters are inspected by secretary J. D. Sproston.

Get It at a Glance

Farm items of interest about many aspects of agriculture

PRELIMINARY estimates of farm cash income in 1951 made by the Dominion Bureau of Statistics indicate a record \$2,819,400,000. This figure would represent a 13 per cent increase over 1949, and a 26.8 per cent increase over 1950. Ontario leads all provinces with \$793,192,000, followed by Saskatchewan with \$622,002,000; Alberta, with \$467,380,000; Quebec, \$432,758,000; Manitoba, \$267,339,000; and British Columbia, \$114,266,000; with a combined cash income of \$122,466,000 for the three Maritime provinces.

THE average Canadian dairy cow produces about 40 per cent more milk today than in 1920. Despite this, production of milk has not kept pace with population growth, and at the same time maintained a normal quantity of milk available for export.

IN 1934, the Agricultural Research Institution at Beltsville, Maryland, maintained by the U.S. Department of Agriculture, began the development of a white breed of turkeys. Today, about 16 per cent of all the turkeys grown in the United States are of the Beltsville white breed.

THE season of navigation at Churchill in 1951 opened July 29 and closed October 4. In the interim, 21 ocean-going vessels docked at Churchill, and 7,278,843 bushels of grain were shipped overseas, which was a new Churchill record. During the season, 7,650 tons of incoming freight reached the port.

THE index number of farm prices for agricultural products, received in November of 1951, was down 1.6 points below the revised figure of 278.9 for October. It was still up 13.3 points above November, 1950, and will be revised upward now that the federal government has announced a 20 cent adjustment increase in the price for wheat, retroactive to August 1, 1951.

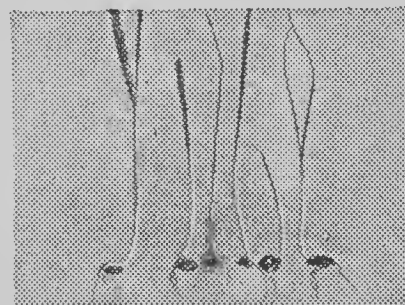
IN 1951, Canada produced 241 million pounds of beet sugar. About 94 million pounds of this was produced in Ontario, 26.5 million pounds in Quebec, and 40.4 million pounds more in Manitoba. Final figures for Alberta will be considerably less than the 123 million pounds produced in 1950, owing to the abandonment of about 15 per cent of the crop.

CERESAN M

gives protection against both SMUTS* and ROTS



SEED ROT. In cold, damp weather, untreated seed rots instead of germinating. CERESAN M treatment protects seed against rot organisms in soil . . . increases germination, results in thicker, stronger stands and higher yields.



ROOT ROTS and damping off, kill or weaken young seedlings, retard their growth. CERESAN M protects seedlings against these soil-borne diseases, helps them develop into strong healthy plants.



SMUT destroys the kernel, lowers yield and contaminates grain, resulting in dockage. CERESAN M controls smut in ALL types of grain—bunt of wheat, loose and covered smut of oats, covered and black loose smut of barley.

*For loose smut of wheat and brown loose smut of barley, use hot-water treatment.

Only a MERCURIAL can control them all

Only a mercurial disinfectant like CERESAN M can protect your seed grain against both smuts and soil-borne diseases. That's because CERESAN M is a *complete* disinfectant. It not only kills smut spores on the seed, but forms a film around the seed which protects it against rots. By controlling these diseases, you increase the vigour, growth and yield of your crop—eliminate smut, too.

CERESAN M gives you **COMPLETE** protection—earns you dollars in bigger yields, cleaner grain, no smut dockage.

Six Big Advantages of CERESAN M

1. CERESAN M contains mercury—the most effective seed disinfectant known.
2. Stops smuts in ALL grains.
3. Protects seed against rot.
4. Controls blights and root rots of seedlings.
5. Improves seed germination as much as 14%.
6. You need only ONE seed disinfectant to treat all grain, also flax.

CANADIAN INDUSTRIES LIMITED, Agricultural Chemicals Department, Winnipeg, Saskatoon, Calgary, Edmonton, Halifax, Montreal, Toronto, Chatham, Ont.

Treat all your seed every year with **CERESAN M**



SEED DISINFECTANTS

Farm Service Facts

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HOW TO SAVE TRACTOR FUEL

Cost studies show that the annual bill for tractor fuel is roughly $\frac{1}{2}$ of the total yearly cost of operating a 3-4 plow tractor. The relationship between fuel cost and the total cost of operation will, of course, vary with the type of service and the number of hours the tractor is used each year. Since the yearly fuel bill represents a large cash expenditure, prevention of waste and maximum economy in the use of fuel is obviously important. Here are some of the ways to save on your yearly fuel bill.

Filling your Storage Tank and Tractor

If you're using a leaky can to fill your tractor throw it away and replace it with a good one, or better yet, with a Storage Tank that has a good hose. Running over the tractor tank is wasteful. Spilled gasoline is dangerous, and particularly so if the tractor is running. When the storage tank is filled leave room for expansion. Locate the storage tank at a safe

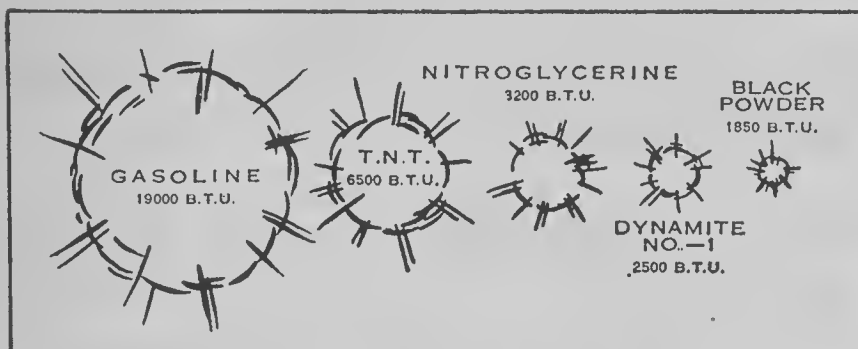
When operating a tractor, it is well to bear in mind that idling wastes fuel and in one year idling time can add up to 100 hours.

The use of wheel weights or liquid in the tires gives better traction and saves fuel.

While proper lubrication and timely servicing is always important, regular servicing of the air cleaner is particularly important because it will save fuel. A dirty air cleaner will not only accelerate engine wear, it can waste quite a few gallons of fuel each day.

Use the Right Fuel

Regular gasoline such as Esso has a sufficiently high octane rating for maximum economy and power in the high compression tractor, as long as there is no 'pinging'. Severe 'pinging' will reduce power and may subject the engine to considerable strain. If the engine is free from carbon and properly timed, the only remedy for 'pinging' is to use a higher octane fuel.



Gasoline contains more potential energy (measured in British Thermal Units) than any of the commonly known explosives. Disregard of safety precautions may lose your gasoline and your life. Follow the suggestions in this article if you want to save money and get more work from each tonful of gasoline.

distance from buildings. If possible provide shade over the tank.

Adjust Your Tractor

The correct carburetor setting for full load, idling and the right idling speed (when the engine is warmed up) can save up to 100 or even 200 gallons of fuel each year. Be sure your tractor is operating at the right temperature—check your thermostat to see that it is working properly. Correct timing and regular servicing of the electrical system will also save fuel and give better performance.

Starting and Operating the Tractor

Before starting, check for leaks in the fuel line. If the carburetor leaks when the fuel is turned on, it may require a new float or new float valve to correct it. Warm up the tractor as quickly as possible after starting by using the radiator shutter or a radiator cover. Using the choke longer than absolutely necessary can waste fuel at the rate of about a gallon an hour.

For diesel tractors, the main requirement is a clean fuel. Dirty fuel and water in the fuel will plug filters and will in time cause sticking plungers and wear in the injection pump as well as nozzle valves. One way of keeping fuel clean is to use a storage tank.



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**Next issue
of Farm Service Facts
will deal with
lubricants.**

PROF. EVAN A. HARDY, Head, Department of Agricultural Engineering, University of Saskatchewan, has been granted a further year's leave of absence by the University, at the request of the government of Ceylon and F.A.O. Professor Hardy is presently leader of F.A.O. work in Ceylon, including agriculture, forestry and fisheries. He is expected to return to his department in July, 1953.

IN Ontario and in the United States, milk distributors are trying out a small six-to-eight-ounce milk bottle in order to compete with pop in the price range of five to seven cents. The present half-pint bottle contains ten ounces.

A PUREBRED Holstein cow, Epworth Johanna Pietje, has become Canada's leading living lifetime milk producer, with 200,063 pounds of milk containing 6,934 pounds of butterfat. Home-bred, she represents the fifth generation of cows tested at Epworth farm, owned by George A. McCullough, Navan, Ontario. Her latest record, started as a 15-year-old, is her best, and is 21,443 pounds milk and 734 pounds fat.

A PROPOSED revision of U.S. bread standards seems to prove conclusively that bread is no longer the kind that mother used to make. The following chemicals would be permitted: bread softeners—mono and diglyceride shortenings; mold inhibitors—sodium propionate, calcium propionate, sodium diacetate lactic acid, and monocalcium phosphate; iron; vitamins—thiamine, riboflavin and niacin; optional oxidizing agents—potassium bromate, potassium iodate, calcium peroxide.

ALL the tuberculin used in Canada for the testing of cattle for tuberculosis, which amounts to approximately 3,500,000 doses per year, is prepared in one laboratory, the Animal Diseases Research Institute, Hull, Quebec, which is operated by Science Service of the Federal Department of Agriculture.

A U.S. Holstein cow, Green Meadow Lily Pabst, has achieved a world record for milk production at 42,805 pounds of milk in advanced registry. This is said to be the first 42,000-pound record ever made under comparable supervision with actual daily milk weights. The former record was 41,943 pounds.

DR. A. P. ARNASON, officer-in-charge, Federal Entomological Laboratory, University of Saskatchewan, has recently announced less danger of grasshopper infestation in Saskatchewan in 1952, than at any time in the last 20 years. The grasshopper forecast map for Saskatchewan indicates that only in the Regina plains are some control measures likely to be needed, other than very small acreages in the central part of the provinces.

Fault: In our January issue a "fault" occurred in which it was incorrectly stated that a fault was discovered in the St. Mary Dam and all the water had to be let out.

Fact: The second valve in the diversion tunnel had to be installed to control surplus water, which necessitated lowering the water. No fault, it is said, has been discovered in the dam.—Editor.

LIVESTOCK



[Guide Photo]
An irrigated permanent pasture near Abbotsford, B.C., in the Fraser Valley.

Winter Feeding Dairy Cows

THE successful dairyman considers many factors when making up the ration for his milk cows. A ration is the amount of feed given to an animal in the period of 24 hours. It varies not only in quantity, but in composition, according to the duty of the animal; that is, whether the animal is kept to produce milk as in dairy cattle, beef as in beef cattle, or merely to grow, as in the young stock.

The function of certain component parts of feeds for livestock should be fairly well understood, and the nature of individual feeds used, understood as well, so that a ration can be intelligently made up. The majority of farmers, of course, must make up the rations they feed, largely from feeds grown on the farm. The quality of home-grown feeds often varies with season, but such defects or advantages, as the case may be, can be accounted for in making up the ration, if the nature of the needed ration is understood and if the composition of individual kinds of feed is appreciated.

All feeds contain some water, grains such as oats and barley usually about eight to ten per cent, and silage, roots and green feeds, anywhere from 70 to 90 per cent.

Most feeds contain some proteins also. These are very complex and exceedingly important substances associated directly with the growth of the animal. They are used in the body to build tissue, maintain and stimulate milk and fat production, to develop the unborn calf, and supply the protein in the milk secreted by dairy cattle. They are necessary for the development of horns, hoof and hair. For these reasons, a cow producing 25 pounds of milk per day must receive 2½ to three pounds of protein in her ration. If no protein at all were fed, the animal would die.

Carbohydrates, most of which are fibre or woody material, starches and sugars, are the important sources of energy and heat for the animal. They form body fat and also the sugar and fat in milk. The starches and sugars are very easily digested, but it is more difficult to digest fibre, which makes this a much less valuable source of energy.

Nearly all feeds contain a certain small percentage of fat. This is the portion of the feed which the chemist can extract by the use of ether. Fats and oils supply over twice as much heat and energy when consumed, as carbohydrates do. Alfalfa hay, for example, which is a very high-protein roughage, has a low content of fat,

along with such other feeds as barley, bran, corn, roots, oats, rye, wheat or silage. On the other hand, flaxseed and soybeans are high in fat content.

All feeds also contain some mineral matter; or ash. Some minerals are absolutely essential for growth and work, as well as for the development of the skeleton. Calcium, phosphorus, iodine, sulphur, potassium, iron and copper are some of these essential minerals.

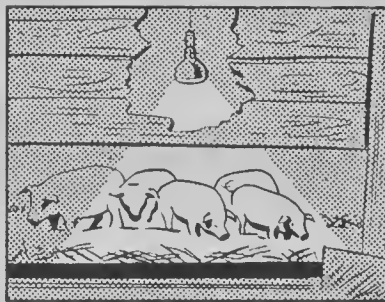
Vitamins are another of the components of livestock feeds without which growth and reproduction in healthy animals cannot be continued. Quite a large number of vitamins have been isolated, and no one knows all about them as yet, but it is known that well-cured hay, especially if it is sun-cured, contains all of the essential vitamins A, B, D and E. Cereal grains and their by-products contain vitamins B and E. Green grass is rich in vitamin A, as is cod liver oil. Milk has much of vitamin B, and the oilmeals such as linseed oilmeal, vitamin E. Some of these vitamins seem to be manufactured in the cow's rumen.

Thus, when we speak of a protein supplement or a protein concentrate, we mean a feed that is rich in the necessary protein such as linseed oilmeal, cottonseed meal, or, say field peas, or dried distillers' grains. And when we plan a "balanced" ration we are really trying to balance the proteins and the carbohydrates in what we propose to feed. The protein, carbohydrates and the fat must be given in reasonably accurate proportions and in reasonably correct amounts, so that the dairy calf, the herd sire, the dry cow, or the high-producing milk cow will each receive a ration suitable for the kind of work they have to do. It always follows that the more suitable and palatable feeds are, the more correct the feeding will be. Moreover, cattle require large quantities of bulky feeds, and this bulk must not be denied them. This means a balancing, also, of the concentrates and the roughages, plus some variety, and of course, as much economy as possible.

Because cattle require so much rough feed, it is important to remember that such feeds are, as a rule, very high in water content, and therefore low in total nutrients. They are generally high in fibre, which the cow's stomach is equipped to digest. Roughages are classed as dry (hay, straw, chaff, cornstalks), or succulent (silage, green corn, growing grass). Roots and tuber crops are also succulent roughages.

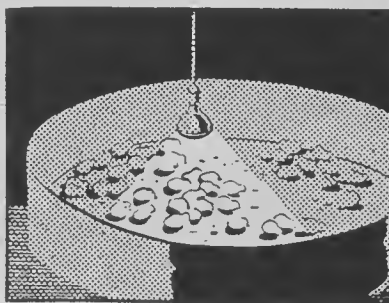
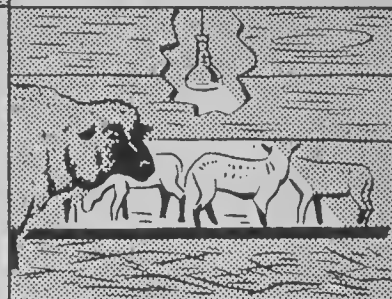
The term "total digestible nutrients" is frequently used and means the

Thousands of farmers report profitable use of Heat Lamps —for reducing livestock losses



One use for the heat lamp, reported by many farmers, is for keeping pigs warm in a boarded-off area, away from the sow. Some farmers put second heat lamp over sow before farrowing to discourage nest-building.

Enthusiastic reports stress reduced loss through chilling, with a simple brooder. Brooder allows lambs to be left in lambing pens where ewe can see them.



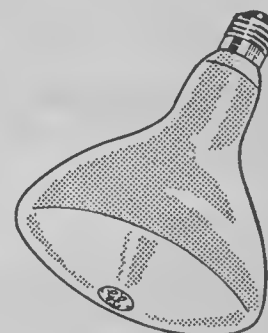
Among successful farm applications of heat lamp brought to our attention was its use in chick brooding—wherever reliable electrical service is available.

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The many reports received—a few of which are outlined above—make it increasingly clear that many livestock deaths can be prevented by the use of simple, low-cost G-E Heat Lamps.

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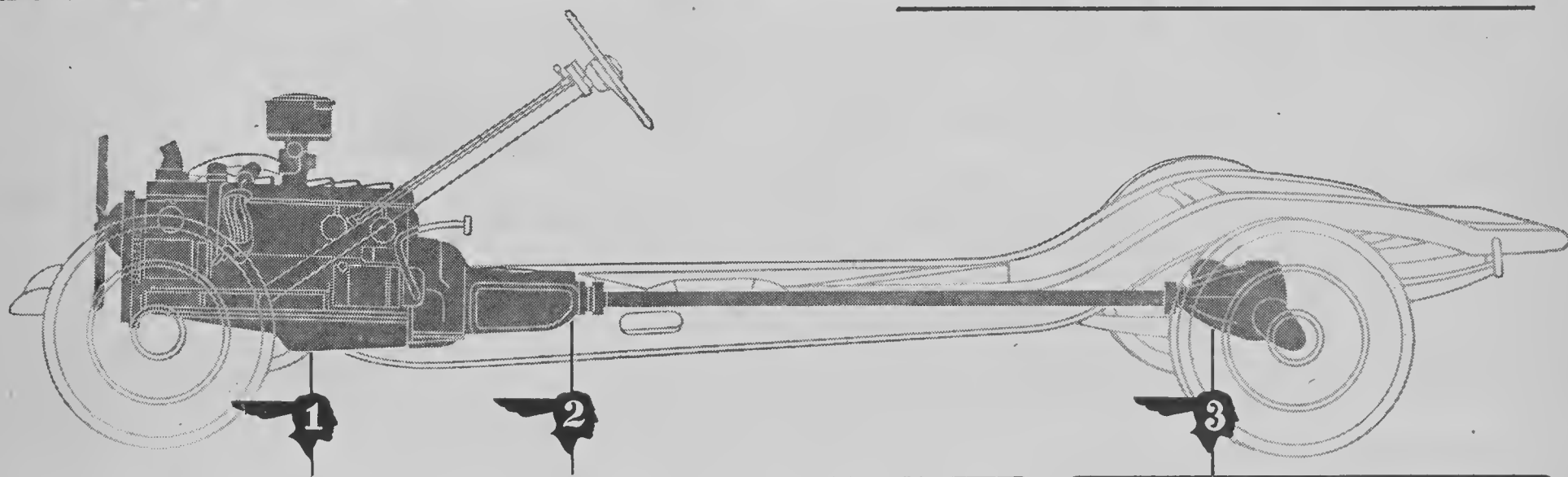
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A GENERAL MOTORS VALUE



approximate total heat or energy value of the feed, including the proteins, carbohydrates and the percentage of fat in the feed. The fat percentage is multiplied by 2½, because the energy value of fat is greater than that of protein or carbohydrates.

Most dairymen accept certain feeding rules, such, for example, as feeding a suitable meal mixture at the rate of one pound of meal to every three or four pounds of milk produced daily; feeding roughage at the rate of, say, two or 2½ pounds of hay per hundred pounds of live weight. Feeding each animal according to its individual requirements; feeding at regular hours; avoiding quick changes in the kinds and amounts of feed; supplying sufficient fresh water, as well as salt and mineral matter, are other obvious rules which it is generally costly to disregard. All grains for dairy cattle should be coarsely ground, or rolled, to avoid a heavy and pasty mixture.

Warble Fly Control

ONTARIO has a Warble Fly Control Act, under which any municipality is obliged to pass a by-law requiring that all cattle be treated for warble fly, when two-thirds of all cattle owners petition for such action. The cattle owners must take the initiative, but any interested group of cattle owners may secure from the Ontario Department of Agriculture a film explaining the life history of the warble fly, and methods of control.

Last year, 76 Ontario municipalities operated effectively and economically under the Warble Fly Control Act, according to W. P. Watson, Livestock Commissioner. Moreover, where such a program has been carried out for several years, the number of warbles observed has progressively declined. In one township, a check made in the spring of 1948 indicated an average of about 13 warbles in each of a number of immature animals. A check on similar animals last spring failed to show a single warble. This was exceptional, but indicates that careful attention to a reduction of the grub population has been highly satisfactory.

The cost has ranged from ten to 15 cents per head per treatment, which means 30 cents per head for the two treatments required. The department assists all municipalities which comply with the Act as to type and number of treatments and the appointment of inspectors. Assistance amounts to 50 per cent of the cost of warble fly powder, and half the salaries and expenses of inspectors.

Larger Cows Produce More

U.S. cow-testing records apparently indicate that larger cows make better use of feed and are heavier milkers. C. C. Olson, of the North Dakota Agricultural College Extension Service, reports: "Analysis of 200,000 dairy herd improvement association records indicates that for the various breeds, 100 pounds greater body weight make a difference of from 200 to 700 more pounds of milk, and from ten to 30 more pounds of butterfat in a year. Bigger cows ate more, but returned \$20 to \$30 extra above feed cost, over smaller cows." The Station reports that in New York State, dairy herd improvement association cows produced an extra 700 to 800 pounds of 3.7 per cent milk for each 100 pound increase in body weight.

R.O.P. for Pigs

OUR Canadian system for pig-testing stems from the fact that 30 years ago, Canada officially selected the bacon hog as the type most likely to prove profitable in the long run to Canadian pig raisers. Under such a policy, excess fat is a liability, and desirable hogs have the highest proportion of lean or muscle in the middle and hams, which are the highest-priced cuts.

Carcass quality is the most important feature of the Canadian pig-testing system. Appraisal of quality of carcass is made on the basis of six key factors. These include length of side, thickness of back fat, size of main back muscle, balance of cuts, quality of belly, and general type. The first four of these are scored on measurement or weight. The determination of belly grade is by comparison with photo standards, while type is judged by commercial grade standards for general confirmation.

Other factors considered in addition to carcass quality are litter size (eight pigs weaned is a minimum requirement), age for weight, and feed required for 100 pounds gain in weight. Four pigs are put on test from each litter. Feeding at central stations is customary, and pigs are marketed at a weight estimated to yield a carcass of about 150 pounds.

"R.O.P. records for pigs are published, and are available to breeders and farmers," says J. G. Lefevre, Canada Department of Agriculture, Ottawa. "They are of service to anyone who desires to secure animals with some performance background."

Loose Housing

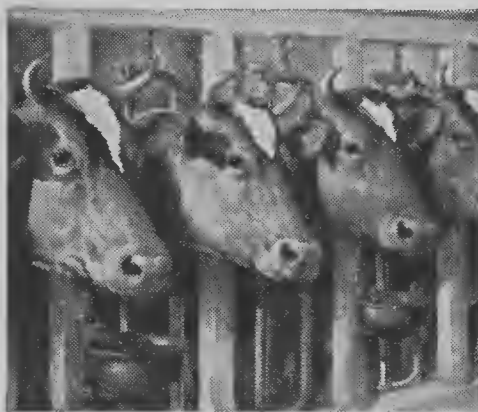
ON October 30, 1951, the ten-year loose-housing project for dairy cattle at the University of Wisconsin was ended. It began early in 1941 and involved a stanchion barn (an insulated one-storey steel building), a cold, loose-housing barn of similar construction, and a warm, loose-housing barn.

Loose housing in a warm barn was not found satisfactory. Even large amounts of straw were not sufficient to keep the bedded area dry in a warm barn, and the cows got extremely dirty. On the other hand, both the warm stanchion barn and the cold, loose-housing barn were satisfactory under proper management for high-producing herds. No appreciable difference was found in the amount of milk produced or the quality of the milk, under either system of management. There was very little difference in the general health of the animals over the ten-year period, except that injuries such as swollen hocks, udder injuries and lameness, observed in the stanchion housing, were almost completely absent with loose housing. Herds in the cold, loose barn ate three to six per cent more roughage, and this may account for the higher gain in weight during the six-month winter periods when the tests were under way. In the early years of the experiment, more bedding was required for the loose-housing barn. Improved management, however, reduced the amount of bedding under loose housing to the point where during the last test period it was only ten per cent more than for the stanchion barn.

Much labor was saved under loose housing. With an elevated stall milk-

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ing parlor and a pipe-line milking machine, the saving of as much as 35 per cent of the total labor requirement was made with the loose housing. The lowest temperature recorded in the cold barn was 23 degrees below zero during the winter of 1950-51, and during each winter the temperature in that barn usually dropped to zero. No relationship was discovered between temperature and milk production.

After ten years' work, the Wisconsin researchers suggest that satisfactory arrangements for loose housing of dairy cattle are:

A bedded area for the cattle to lie on, at least 60 or 70 square feet per cow. This area should be well ventilated and separated from the feeding and milking areas.

A feeding area, paved, cleaned daily and located indoors.

A sanitary milking parlor with elevated stalls, to make the work easier.

Storage areas for feed and bedding, either as part of the barn unit itself, or located where the feed and bedding can be conveniently transported.

An outdoor exercise lot, partly paved to provide a clean area for muddy weather. In addition, there should be adequate housing for young stock, conveniently arranged and protected from drafts.

It is also recommended as a result of the ten-year study that the manure pack in the bedded area should be removed in the spring when the dairy herd goes on pasture.

Sprouted and Frozen Grain

SPROUTED and frozen grains are not poisonous to livestock, says the Experimental Station at Lethbridge. Nevertheless, it may not be as good feed as unsprouted or sound grain. These are the conclusions after many feeding experiments at the Station, and support the experience of many practical feeders.

Grain with only a small percentage sprouted is equal in feed value to non-sprouted grain for all classes of livestock. On the other hand, if it is badly sprouted, it will be inferior in quality, but not harmful. Decrease in quality comes from a lighter bushel weight and a higher proportion of fibre or hull. Even so, it will not be much less valuable for sheep and cattle, but because poultry and swine cannot use feed efficiently that has a high percentage of fibre, badly sprouted grains will be substantially less valuable for these classes of livestock.

The same thing is more or less true of frozen grains. The Station warns, however, that persons who have not been accustomed to feeding wheat to livestock should take care not to feed too much sprouted or frosted grain at first. This is because wheat is a heavy feed and livestock need to be accustomed to it gradually, whether it is sound or damaged. Lethbridge says that the belief that frozen and sprouted wheats are poisonous is really due to the fact that feeders have sometimes introduced wheat too quickly into the ration.

Moldy and heated grain or hay must be used with caution. Most molds that grow in hay or on grain that has been dampened in the swath, or threshed before it was dry, are not harmful. Nevertheless, some molds are, and the

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Talk to your neighbors who own "AR" Tractors. Learn how they've cut costs, increased work output. Call on your John Deere dealer, arrange for a field demonstration and see for yourself that the John Deere "AR" is all—and more—we and your neighbors say it is.



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farmer cannot tell by appearance. It is, therefore, safer not to use moldy feeds. If absolutely necessary due to shortage of feeds, the Station recommends that the hay or grain that is slightly molded should be fed "so that the stock can pick out the good and leave the badly molded parts, and if at any time stock fed hay or grain damaged in this way begin to go off feed, the use of such feeds should be stopped immediately."

Care with Trough Heaters

SAFETY is the most important point to think about when planning the heating of water for livestock in cold weather. This warning comes from the Experimental Station at Swift Current, where authorities agree that it will pay to warm water for livestock in winter, but urge care in setting up wood, coal or oil burning heaters to work under water in the water trough.

Brace the smokestack strongly against the wind, and keep it well away from any material which might catch fire. Put a screen over the top of the smokestack to prevent sparks from flying out. Be careful when handling ashes, and use metal cans with lids, adding a little snow or water whenever ashes are put in the can. Be sure dampers in the smoke pipe fit and are easily operated to stay at the proper setting. An automatic draught check will keep the fire from running away in a strong wind. If fuel oil is used, keep the flues clean and avoid spilling the oil. Use oil burning units bearing a stamp of C.S.A. approval.

Best of all, where practicable, are electric heaters with thermostat control. They require little attention, but the immersion type must be kept covered with water at all times, or they will burn out if the current is on. Avoid short circuits by taking care that proper connections are made, and thus avoid fire or the possible death of animals or humans.

Cultivated Pastures Best

D. A. DUNCAN, Dominion Experimental Farm, Brandon, says that a good grass legume mixture will withstand periods of drought better than native pasture, and with beef at 30 cents a pound on the hoof, the cultivated pasture will out-produce native pasture by \$10.80 per acre.

For the 1948-51 period, district experiment substations in southwestern Manitoba got an average yield of 3.9 tons per acre of alfalfa-brome mixtures, which was 1.47 tons per acre more than the 2.46 tons secured from native pasture, in terms of green forage.

Last year, native pasture had an estimated carrying capacity in the Melita area of one animal on four acres. This meant that a quarter section of good native pasture could carry 40 head of cattle, but the same area of cultivated pasture would carry about 64 head. At the Experimental Farm at Brandon, yearlings made an average gain of 240 pounds each, after 5½ months on pasture.

Rapid gains depend on whether pasture is succulent and comparatively plentiful at all times. On one station, the cattle had access to both native and cultivated pasture during a dry period in the summer of 1951, but the native pasture was dried up shortly after the first week of July.

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Canada's attitude toward world food supplies
and abundant farm production explained

F.A.O., the Food and Agriculture Organization of the United Nations, was projected two years before World War II ended. It came into existence, because far-sighted men realized that when the war was over, a real peace could be secured and maintained, only if certain basic freedoms were more or less general throughout the world. One of these basic freedoms was freedom from want. The most pressing want throughout the world is food, and it is to the alleviation of world hunger that F.A.O. is dedicated.

How is it going about its job? First, it has laid out a very large and comprehensive program of technical assistance to underdeveloped countries, in the hope that through the advice and assistance rendered by representatives from the more advanced countries, these less well-off countries will before long be able to produce more of the food they need. This program is, therefore, a program for the encouragement of self-help. Considering the rapid increase in the world's population and the difficulty of getting improved methods adopted on farms within our own advanced countries such as Canada, the United States and Britain, it will obviously be a long time before these underdeveloped countries, by their own efforts, will be able to feed themselves. What else can F.A.O. do, to more quickly assuage the world's hunger?

The first Director-General of F.A.O. was Sir John Boyd Orr, who, perhaps more than any other man of our time, brought to the attention of all countries of the world the importance of abundance and its relationship to the peace of the world. Sir John believed that the more fortunate nations should forthwith agree to build up world food stocks and make portions of these stocks available to countries that need them, on terms that such countries could afford. These proposals received little encouragement from governments, who alone could implement such a program, whether it was carried out within or without the United Nations organization.

F.A.O. has held annual conferences every year since it was formally organized in 1945. The farmers' world organization, the International Federation of Agricultural Producers (I.F.A.P.), was organized primarily to co-operate with F.A.O. and to create mutual understanding among the national farm organizations of as many countries as would join. I.F.A.P. has consistently and repeatedly urged action along the line of international commodity agreements and a study of the international commodity problems arising out of the world's hunger and the world's trade. The Canadian Federation of Agriculture has taken an active part in I.F.A.P., and two years ago proposed a method of handling international surplus farm commodities which received general approval from I.F.A.P., but nothing has come of it. Canada is a country of huge expanses of farm lands, capable of producing a great many food products in large volume for export. Our export of farm products is now curtailed because of the "dollar" problem. We

could produce much more for the world to eat if we could sell it. What then is the stand taken by the government of Canada with regard to F.A.O. and the problem of alleviating the chronic hunger of half the world's people?

On December 17, 1951, in the House of Commons, Canada's official position as a member of the United Nations and having active representation in F.A.O., was stated by the Rt. Hon. James G. Gardiner, minister of agriculture, as follows: ". . . The fact is that from the time F.A.O. was first set up, the government of Canada supported Sir John Orr in his proposal . . . I believe that on two occasions, probably three, I was a representative of this country, and the government's position was clearly stated as being favorable to Sir John Orr's proposal . . . I have not given the answer at any time that Canada could do the job as well herself.

"The statement I did make had to do with wheat, and it was to the effect that Canada had carried 600 million bushels of wheat throughout the last half of the war, and not at the cost of Canada, but at the cost of the wheat grower. My statement was that if 200,000 farmers in Canada could carry 600 million bushels of wheat, surely a group of nations could carry the comparatively small amount which they would be required to carry, in order to take care of the surpluses that might occur elsewhere . . . In the face of that argument, the countries that were most capable of financing any such proposition refused to do so. All Canada ever did in the matter was to say that it would be an impossible position for Canada to head a group of nations who would find it impossible to finance such a proposition; so Canada could not vote for something she could not possibly carry out. Canada voted against that. We still maintain that if all the countries of the world, and particularly those most capable of financing, wish to follow such a plan, then Canada would be in a position to consider the matter again and express her point of view with regard to it. But so long as the situation is that those who might be expected to do the greater part of the financing are opposed to it, Canada certainly is not going to step in and try to finance a loan for feeding, let us say, the suffering people in China."

H. H. HANNAM, president of the Canadian Federation of Agriculture, discussed this question at some length in his presidential address before the C.F.A. annual meeting in Montreal last month. He said:

"After six years, with an annual conference every year, the nations in F.A.O. have not yet been realistic about an international commodity program, and the desired increase in world food production will not be forthcoming until they are. We in the Canadian delegation tried to bring that fact home to them again this year, but I doubt if we succeeded. Our presentation . . . was supported by delegates of Denmark, The Netherlands, France, Norway, Sweden, Finland, Australia and a few others.

". . . The Director-General told the

conference that food production is nine per cent higher than prewar, but that during the same period, population has increased 12 per cent . . . The increase in food production has . . . kept pace in the U.S. and Canada, in Australia and New Zealand, but not in Europe, Asia, Africa or South America.

". . . Hope of greatly increased production to feed a hungry world . . . must come from the agricultural exporting countries. While the technical assistance program promises to show results in time . . . the appeal of that world conference . . . (is brought) to our own doorstep and to that of a handful of others. What is our position?

"We emphasized to the conference that Canada had taken practically all the measures which it could take within Canada, to induce expanding food production, and that Canadian producers were now supplying abundantly the domestic market and practically all the effective demand we had for export. Without expanding export markets, our producers . . . can do little but ignore the plea of the recent conference, much as they recognize the world need and desire the opportunity of helping to meet it. They know too well that expanding production without any assurance of a market for the additional product is too great a risk, because it can clog markets, undermine prices and agricultural economies. Almost certainly, it would bring about decreases in production, the very opposite of that to which the efforts of well-intentioned producers would be designed to achieve.

"To take the position that Canada and other advanced countries should produce to capacity, because people somewhere need the product, is a fine humanitarian point of view, but it is a theoretical and impractical one, unless an international commodity program exists to organize and supervise distribution . . . So we come back once more to the conclusion that the world is waiting for leadership from governments in F.A.O. to establish a commodity program and some international action agency equipped with finances and authority to enable it to meet emergency, shortages and famine, to hold reserve stocks and to manage surpluses . . . Words and more words . . . will not feed people or pay food producers their costs."

Plant Breeders

Continued from page 11

Department, that "common barley, with its seven pairs of chromosomes, would be a good crop for the study, as mutations would show in barley much more readily than in polyploid crops like common wheat and oats, where there are three pairs of each type of chromosome."

Three methods of irradiation were used, one of which was by the well-known method of X-rays. It was believed also, that radioactive phosphorus would be particularly useful, because phosphorus is one of the elements found inside the germ cells. A third method was the use of radium-alpha-beryllium as a source of gamma

and neutron gamma irradiation, of both dry and wet seeds. The high energy X-rays were produced by the betatron which was established at the university a few years ago, and were used on dry seeds. Units of irradiation are called R or Roentgen units, each being a certain emission of rays from the substance providing the irradiation. A different method is used for measuring radioactive phosphorus.

In the summer of 1951, second generation plants after irradiation were grown to the number of about 20,000, covering 3½ acres. Professor Shebeski pointed out a considerable number of mutations which had been marked for further observation and study. Between 20 and 25 mutants have been noted. Some have straw that is short and strong. One in particular is very strong-strawed; another is about two weeks earlier than Montcalm. One is of a hooded type, another is two-rowed. Professor Shebeski has located a sufficient number of erectoids, as the stiff-strawed mutants are called, to demonstrate the correctness of the theory offered by the Swedish scientists.

Differences due to the kind of irradiation have also shown up. For example, a much higher proportion of albino, or lethal, plants have appeared from the betatron rays, and a much smaller percentage of such weak and undesirable plants have come from the radioactive phosphorus.

As to what will now be done with these mutations, Dr. Harrington said: "The various mutants may be studied genetically and their chromosome condition examined cytologically (examination of individual cells). We want to know just what germ plasm changes have occurred. We want particularly to know whether the gene changes for straw strength and earliness are accompanied by gene changes for malting characters and yield and, if so, what sort of changes. There may be definite plant improvement possibilities in this irradiation project, but there is a great deal to find out. In any event, these studies should give us valuable information on barley inheritance, to aid us in our breeding work.

THE basic research being done by Dr. Jenkins in the study of wheat inheritance, or genetics, can be illustrated by the project he has now under way with wheat and rye. From a purely cultural point of view, rye has two advantages not possessed by wheat. It will produce more grain per acre on poor soil, than will wheat; and, in addition, it is harder and will stand more severe climates. Therefore, what Dr. Jenkins wants to do is to introduce the hardness of rye into wheat; and for this project, which will require several years to complete, he has chosen Kharkov, a winter wheat grown in southern Alberta and, to a lesser extent, elsewhere on the prairies, and Dakold rye.

Wheat has been crossed with rye many times, but the hybrid is generally sterile. The seven pairs of rye chromosomes do not appear to pair or "nick" with the 21 pairs of wheat chromosomes. This may be due to the fact that rye is cross-pollinated, and wheat is self-pollinated.

Apparently insuperable difficulties seldom deter researchers, if they can discover some theoretical way by which they may accomplish what they

are after. Dr. Jenkins will attempt to get the hardness of rye into wheat by three steps. The first will be to build up a complete aneuploid series of Kharkov, which will mean 21 "deficiency" lines, each having a different chromosome missing. This he will achieve by crossing each one of Sears' 21 Chinese spring wheat aneuploids, on a normal Kharkov. When, by examining the cells of the hybrid under the microscope, he has found one with a chromosome missing, he will cross it back on normal Kharkov five or six times, making sure by microscopic examination of individual cells that the deficiency of one chromosome is maintained. After long and patient effort, he expects to secure all 21 lines each with a different missing chromosome.

Concurrently with this step, he will cross Dakold rye on normal Kharkov. Since the resulting hybrid will be sterile, it will be necessary to use colchicine to double the number of chromosomes, and this process should make the hybrid fertile. It will now produce gametes, or germ cells, containing each one of a set of 21 wheat chromosomes, plus a set of seven rye chromosomes. If, then, this double hybrid is crossed on normal Kharkov, its wheat chromosomes will be able to find mates in the chromosomes of the normal Kharkov, and the rye chromosomes will have no mates to pair with. "Because the rye chromosomes are found only singly in the cells," says Dr. Jenkins, "they become lost, as germ cells are produced by the plant. Our object is to find seven plants, each of which has the complete set of wheat chromosomes, but each with a different one of the rye chromosomes added." This reward of diligence and patient observation would thus yield seven genetically different "addition" lines.

So far in the process, then, Dr. Jenkins will have secured 21 "deficiency" lines of Kharkov, each one minus one wheat chromosome, and he will also have at his disposal seven "addition" lines, each one carrying the full complement of wheat chromosomes plus a rye chromosome that is different from the rye chromosome in any of the other six. The third step, therefore, in bringing about an ultimate variety of wheat containing the hardness of rye, will be to make all of the possible combinations between these deficiency and addition lines. Theoretically, there are 147 possible combinations (21×7=147).

"AT this stage," Dr. Jenkins said, "much of the work is of a somewhat fundamental nature, and it is not possible to predict whether all 147 combinations will be possible. It is hoped that at least enough of them will be possible to combine the hardness of rye with the hardness of wheat, and possibly get something which is even harder than either wheat or rye. Whatever happens, we will have contributed a great deal to the knowledge of cytogenetics (cell study of inheritance), and will have learned a great deal about the performance of chromosomes of wheat and also the influence of rye chromosomes on wheat. Each of the 147 'substituted' lines—if we get them all—will be subjected to extensive greenhouse and field tests." It is quite conceivable that more than one useful variety of wheat may be obtained.

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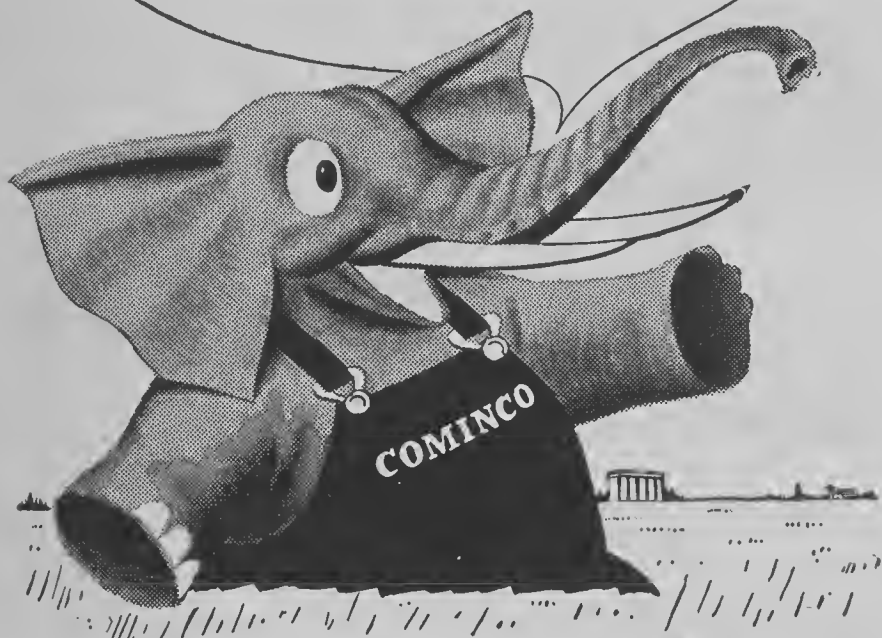
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[Guide Photo]

This small crop of annual hay near Revelstoke, B.C., where rainfall is likely to spoil hay, illustrates an attempt to minimize loss.

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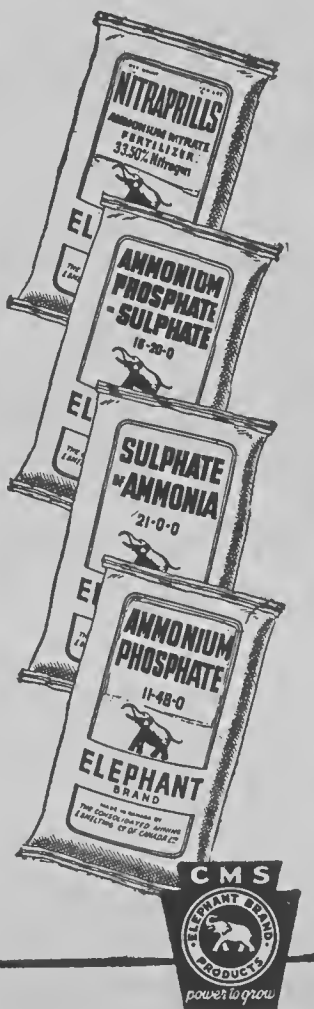
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Do Fertilizers Pay?

IN recent years, prairie farmers have used increasing quantities of commercial or chemical fertilizers. Manure has been used as a fertilizer for many centuries in some parts of the world, but the beginnings of our science may be said to have occurred when, a little more than a century ago, chemists first found out that plants depended for their health upon the presence of individual nutrients in the soil.

For quite a long time after settlement began on the prairies, there seemed to be very little response to fertilizers, and even when fertilizers began to be used, very low rates were considered sufficient. Today, however, with the passage of time and a much more intensive experimentation, average increases in yield from 40 pounds per acre of 11-48-0 fertilizer on either dark brown, black, and degraded black and grey soils in Saskatchewan, are likely to be from five to seven bushels per acre.

Generally speaking, a phosphate is the main requirement on summerfallow crops, so that 11-48-0, a highly available phosphate fertilizer containing some nitrogen, is best. Stubble crops, on the other hand, while they need phosphate and nitrogen, are not likely to show increased yields from fertilizer on the brown and dark brown soils. Nitrogen is likely to be short because of the cropping the previous year and because stubble is often worked in too deeply which creates a temporary shortage of nitrogen. In Saskatchewan, therefore, stubble crops on the heavy black soils will respond in many cases to 40 pounds of 11-48-0, and on other black soils, 50 to 75 pounds of 16-20-0 are likely to prove profitable. For stubble crops on the grey-wooded and badly degraded soils, the same amount of 16-20-0 is recommended. Alfalfa grown for seed production usually needs some phosphate and in the grey-wooded area, sulphur as well. Legumes require large amounts of sulphur and the grey soils of the prairies do not carry enough for legumes. Grass fields for hay and pasture need phosphates at the time of seeding, and some nitrogen broadcast later when there is a tendency to develop a sod-bound condition. Cereals grown on the grey-wooded soils should have nitrogen and phosphate. There is a low organic matter content in such soils, and this indicates a nitrogen shortage.

In Manitoba, stubble crops do not as a rule benefit from fertilizer, according to the Experimental Farm at Brandon, but if the seed bed is heavily littered with crop residue, 40 pounds per acre of 16-20-0 is recommended. Brandon officials say ammonium sulphate (21-0-0) is useful mainly on the submarginal soils with a low nitrogenous content. Barnyard manure at Brandon has given higher increases than commercial fertilizers, and it is interesting to note that in 30 years of trial, sweet clover plowed under as a green manure has not increased grain yields.

Saskatchewan readers who are interested in fertilizers for various crops should write to the Extension Department, University of Saskatchewan, Saskatoon, or ask their agricultural representative for a copy of Bulletin No. 122, entitled "Fertilizers in Saskatchewan." An answer to almost any question about the use of fertilizers will be found in this brief and easily read bulletin.

Farmers anywhere in the West should be warned that a possible shortage of some fertilizers is anticipated in 1952, so that supplies ought to be ordered fairly soon. When received, it is better to store fertilizer in a dry, well-ventilated building, a few inches off the ground or concrete, and away from the side of the building or metal. Don't pile it too high, and leave space between piles for air circulation. If there is any danger of moisture settling on the bags, cover the pile with a few inches of straw. As a precaution keep the doors and windows closed during damp weather, and open them when it is dry.

Sow Recommended Varieties

FOR nearly a quarter century, specific recommendations have been made as to varieties of cereal crops and flax found most suitable for practically all areas in the three prairie provinces. Continuous testing of varieties has resulted in the discarding of old, less suitable ones, and the frequent addition of new ones contributed by the plant breeders of Canada or the United States.

Each year, in the month of December, the agronomists of Manitoba, Saskatchewan and Alberta meet for joint consultation and comparing of results in their respective provinces, and issue recommendations for the following year. Lists of recommended varieties are compiled and are available from any agricultural representa-



I was just reading about another big barn burned down the other night. All the hay and grain and some pigs, chickens and machinery went with it. Luckily, the cattle were saved. But even then the insurance didn't nearly cover the loss.

It's an old story, I suppose. Fire started when wind-blown embers lit on the barn roof.

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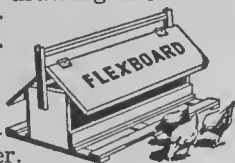
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tive or district agriculturist, or from the provincial departments of agriculture, or the agricultural college of each provincial university. These annual lists of recommended varieties are necessarily imperfect because they cannot take into account the variations as between individual communities or farms. Nevertheless, they come as close as care and improved knowledge can bring them, to accuracy in the determination of which varieties should be eliminated and, in relatively small areas, which varieties should be given the preference. Readers would do well at least to compare the new recommendations for their specific districts or varietal zones, with the varieties which they are in the habit of seeding.

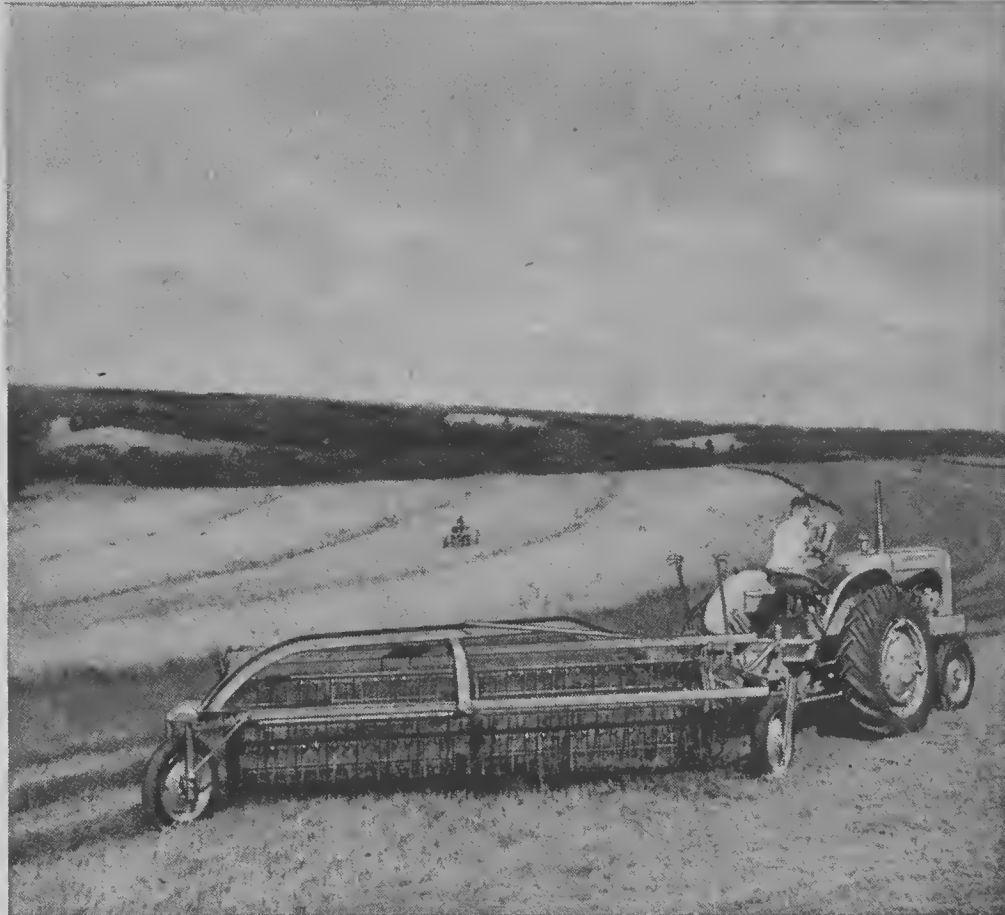
Control of Couch Grass

AN old and useful definition of a weed is that it is "a plant out of place." Couch grass often qualifies under this definition. It is an extremely persistent grass which, unlike many other grasses, has no weak spot in its cycle of growth. Any time the soil is fertile enough for it to make leaf and stem, it continues to build food reserves in its roots.

A. C. Carder, Dominion Experimental Station, Beaverlodge, Alberta, reminds us that no chemical has yet been introduced which offers a practical method for field-scale control of this persistent and pernicious grass. T.C.A. (trichloroacetic acid) will generally prove effective in cleaning up patches of couch, but so far has not provided the clean, quick control which farmers would like. Best applied as a spray requiring 80 gallons or more per acre, it is also advisable to remove any heavy growth of couch before applying it. Plowing or one-waying the sod before spraying, and cultivating once or twice afterward, may bring about a fairly complete kill with from 50 to 70 pounds per acre instead of 100. In any case, a careful check is necessary for at least two years after T.C.A. treatment, to take care of the seeds and small root sections which may renew infestation. Moreover, late summer or early fall applications of T.C.A. mean that its effect may last well into the next season, so that a year's fallow should follow treatment to allow for the disappearance of the residual effect of the chemical.

The old stand-by for perennial weed control was sodium chlorate, which unfortunately sterilized the soil and had an effect which might last for several years. Applied at four pounds per square rod, sodium chlorate is not only expensive, but tends to break down the structure and affect the physical nature of the soil. For very small patches, it is more convenient than T.C.A., and can be applied dry as well as in spray.

Where cultural control is attempted, an intimate association will be found between dry years and successful eradication. Carder recommends that if the couch grass is widespread over the field, the cultivator, immediately followed by a wire or cable weeder to bring the roots to the surface, may be used to advantage. Where the couch is in patches, a blade implement such as a disk or one-way might be a wiser choice. "If couch-infested sod is sown to cultivated grasses or legumes, and pastured," he says, "the best method



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of eradication would be crowning shallowly with a one-way, followed by frequent use of this implement or a disk. A good time to start," says Carder, "is in the fall, as soon as the field is cleared of crop, because fall plowing exposes the couch roots to frost action."

Seeding Cereals in S.W. Sask.

TWENTY years ago in southwestern Saskatchewan, the varieties of cereals used were Marquis wheat, Trebi barley and Banner oats. Highest yields were usually obtained by seeding oats and barley as early as possible in the spring, and wheat by about May 10.

"Now," says the Swift Current Experimental Station, "the most satisfactory seeding dates are somewhat different." Rescue and Thatcher wheats are now used along with Titan barley and Ajax oats. Using these varieties, present indications are, says the station, that the barley for highest yields should be seeded just as early as possible in the spring and preferably not later than May 1; oats from May 1 to May 10, and wheat from May 1 to May 20. Yields of all three grains tend to drop fairly rapidly if seeding is delayed beyond these dates.

On the basis of pounds of grain produced per acre at Swift Current, both oats and barley outyielded wheat, with oats giving slightly more pounds per acre than barley. At the substations in southwestern Saskatchewan, barley produced the highest average yield in pounds per acre at 12 out of 13 stations, and oats at the other station. Barley rated from 105 to 159 per cent of the wheat yield, and oats from 92 to 128 per cent of wheat. "These results," we are told, "indicate that there is considerable variation in the adaptability of the crops to the different districts. They also indicate that the yields of barley and oats compare favorably with wheat as a feed grain in all areas; and in some districts barley at least may be a more profitable cash crop than wheat."

2,4-D May Cause Freak Heads

FARMERS and others who have had occasion to closely observe the heads of growing and harvested grain during recent years have noticed an occasional abnormal branched or double head. The rapid increase in the use of 2,4-D as a chemical weed-killer during recent years has led farmers, and others who are not in a position to be certain, to believe that these heads were the result in some manner of the use of 2,4-D. Consequently, The Country Guide recently submitted a double head of rye to Dr. P. J. Olsen, head of the Plant Science Department, University of Manitoba. The following is Dr. Olsen's comment:

"Spike abnormalities are very common results of treatment with 2,4-D, applied in the early stages of growth, that is, after the plants have attained a height of a few inches. Branched heads, supernumerary spikelets, elongation of internodes, and opposite rather than alternate arrangement of spikelets on the rachis, are typical of such abnormalities. It is quite possible that the double head of rye in question is the result of 2,4-D treatment. If the branching is accompanied by any of the other abnormalities just



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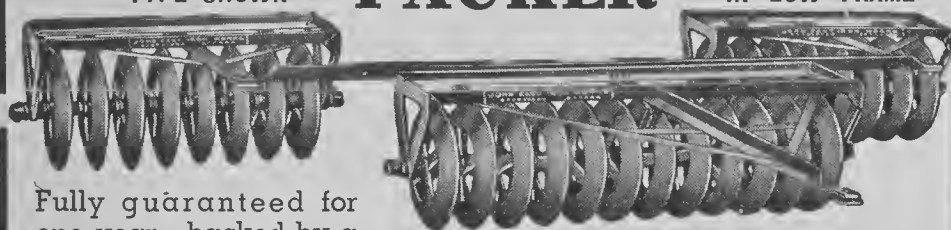
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referred to, it is practically certain that 2,4-D is the cause. On the other hand, we have seen occasional instances of branched heads of rye which we think are not ascribed to treatment with 2,4-D. In such cases, the heads are normal except for the branching, that is to say, the spikelets on the heads are normal. Mutation is the likely explanation. Ordinarily, they are of rare occurrence."

Field Beans

THE Lethbridge Experimental Station believes that field beans should be added to the sugar beet crop, as a cultivated crop for irrigated lands, and as a means of keeping weeds under control while at the same time returning a profit to the grower.

The station says that sugar beets and beans work well together because the sugar beet drills and cultivators can be used for beans, and the sugar beet labor will be available for the small amount of hand work the beans need. The latter are seeded after the seeding of sugar beets is completed, and usually harvested before the sugar beet harvest commences. Moreover, a good bean crop, says the station, "enriches the soil in nitrogen and assures farmers of an increase in yield of sugar beets or any other crop that follows beans." In crop sequence experiments at the Lethbridge station, beets and other crops have given higher yields following beans, than following canning peas, corn, potatoes or grain.

A good crop of beans would yield from 1,200 to 1,500 pounds per acre, and the beans imported from Ontario into western Canada at the present time cost about nine and one-half cents per pound at Lethbridge. Among the small white varieties, the Burbank seems to have been best for southern Alberta conditions, but an early strain of Great Northern grown in Montana and Wyoming has been selected at the Lethbridge station and has now been accepted for registration by the Canadian Seed Growers' Association.

Forage Crops for Manitoba

PARTS of Manitoba have been under cultivation for a period of 70 years, and during this time the use of this land by farmers has been almost exclusively based on a cropping system of fallow-grain-grain. "This," say officials of the Experimental Farm at Brandon, "has encouraged destruction of the fertile topsoil, by wind and water erosion."

No enterprising farmer would leave part of his farm lying fallow for a year if he thought he could avoid it; and certainly the 50,000 farmers of Manitoba would not willingly leave the nearly two million acres of cultivable land uncropped each year, if they thought it wise to crop it. Yet, say the Brandon officials, individual farm plans involving a good balance of crops, and including grasses and legumes, would make possible a substantial reduction in the acreage of bare fallow. Along with this reduction would come increasing protection for the soil against erosion, coupled with an improvement in the soil both as to its texture and fertility.

Alfalfa is regarded as the most important forage crop grown in Manitoba because no other cultivated crop combines quality, hardiness, yield, long life and adaptability for hay and pasture, in the same way that this

crop does. Ladak, Grimm and Rhizoma are the three varieties of alfalfa recommended in Manitoba, in the order of preference as given.

Sweet clover is another legume considered useful under Manitoba conditions in short rotations, where a forage crop is needed for soil improvement, weed control, or for hay. Four varieties of sweet clover are on the Manitoba recommended list at present, including Erector and Aura, both yellow-blossomed types, and with an erect habit of growth. In addition, there are two other varieties, Arctic and Brandon Dwarf. The white-blossomed types are taller-growing, but the yellow-blossomed have finer stems and are leafier.

The most widespread cultivated grass grown in Manitoba is brome grass, principally because its persistent growth habit has made it suitable for all soil zones. For areas deficient in moisture, crested wheatgrass, best known for its suitability to dry areas, is more useful, just as meadow fescue is better for the heavier, well-drained soils. For alkali soils, slender wheatgrass is recommended, and for areas subject to flooding and often poorly drained, reed canary grass is advised.

Sometimes an annual forage crop is needed, either for pasture or for hay. Brandon tests indicate that either Siberian or Hungarian millet, or a smooth-awned barley such as Plush, or even one of the current standard varieties of oats, will produce satisfactory yields of hay.

Durum Wheats

DURUM wheats are not used on this continent for the making of bread flours. In the United Kingdom and some other countries, a small amount—rarely exceeding five per cent—is sometimes used in the mill mix for bread flours, if high grade bread wheats are scarce, or if durumms are relatively cheap. Durumms alone make a small loaf with a poor texture, and an undesirable yellow color. Durumms are used mostly for making semolina (macaroni) or puffed wheat. For macaroni, the criterion of quality on this continent and in Europe is the color, and for puffing, the primary quality is soundness of kernels. Large kernels are preferred for puffing, and a protein content that is not too low.

Durum wheats are not grown in large volumes on the prairies, and are grown most freely in the southwestern part of Manitoba and the southern and especially southeastern part of Saskatchewan. In the northern areas, they are generally not satisfactory.

The Experimental Station at Scott, for example, has tested Pelissier, Mindum and Carleton against Thatcher and Rescue wheats, for several years. Thatcher has always been the highest yielding variety, with Rescue second, and Stewart the highest yielding among the durumms, averaging not more than 78 per cent of Thatcher, over a five-year period.

The officials at Scott have concluded that for west-central Saskatchewan bread wheats are not only higher yielding and earlier maturing, but also—with the exception of Rescue—shorter in the straw and more susceptible to sawfly damage than the durumms, the durumms ranking about midway between Thatcher and Rescue for sawfly damage and were from seven to ten days later than Thatcher.



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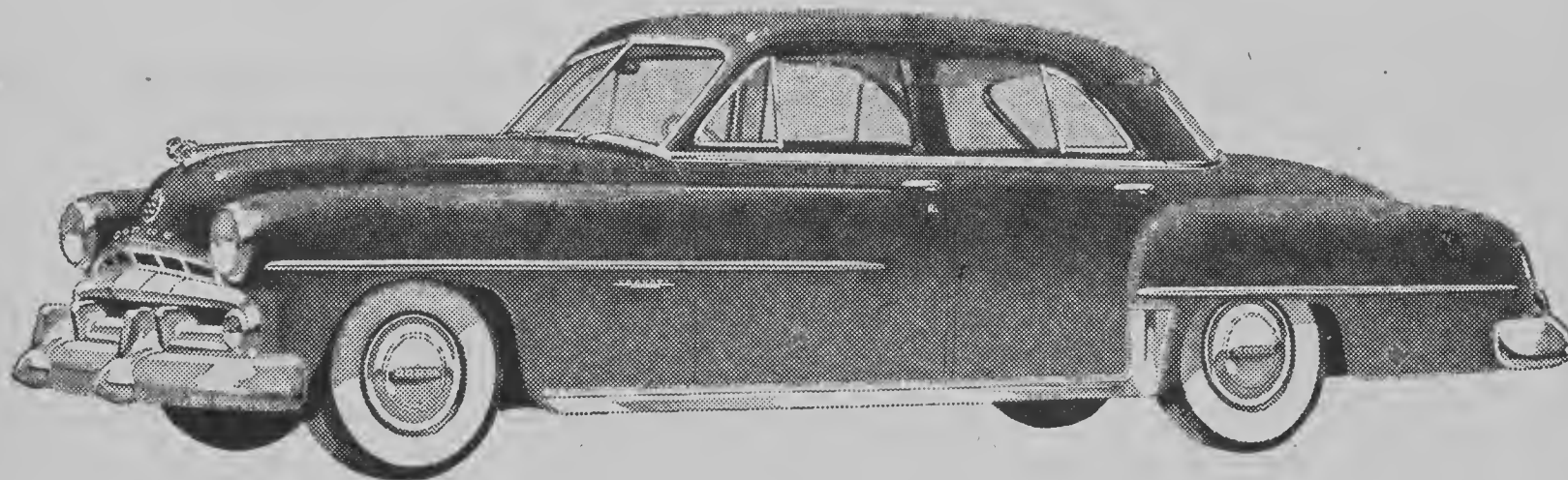
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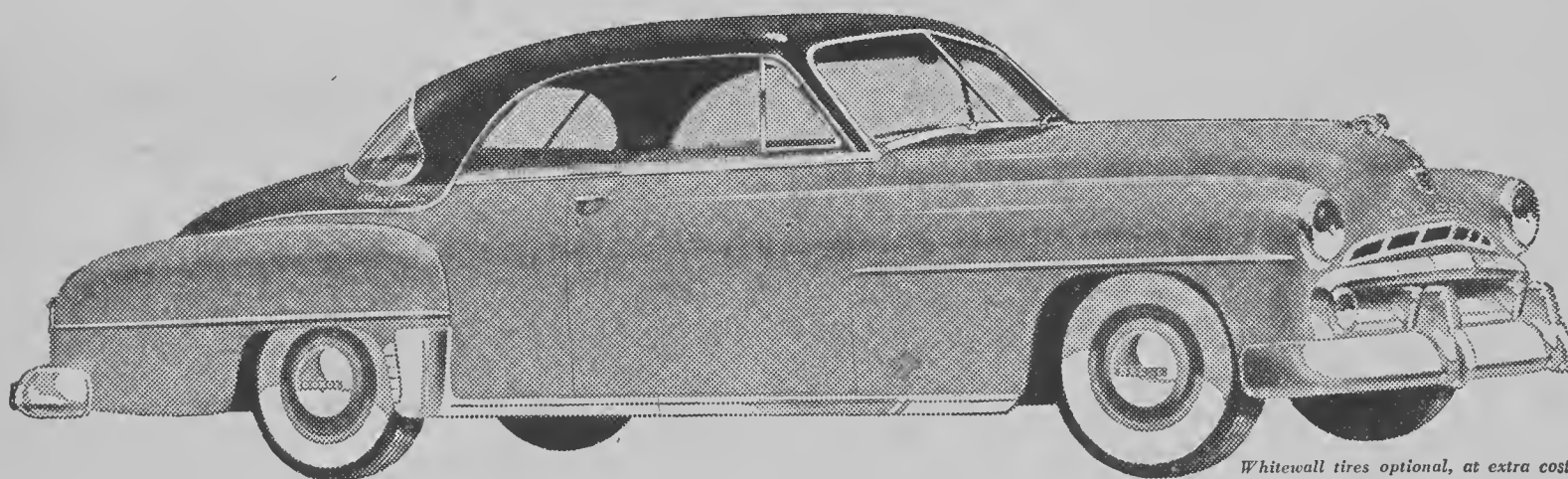
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HORTICULTURE



Russian olive (light foliage) contrast nicely with the dark green of other trees. [D. R. Robinson photo.]

The Russian Olive

THE Russian olive appears to be worthy of a more prominent place in prairie ornamental plantations than it has been accorded to date. The silvery grey foliage, fruit and twigs provide a delightful contrast to the green colors of the lilacs, honeysuckles and other shrubs. The small, yellow flowers are not conspicuous, but they are fragrant. Authorities state that this tree-like shrub is drought resistant and has the ability to grow in soils containing some alkali.

The Russian olive is of some value as a specimen shrub, but because of its size (15 to 18 feet when full grown) it can be used most effectively in mass plantings in parks, school grounds and similar locations. Reports as to its hardiness vary considerably. It is included in the 1951 Manitoba list of Horticultural Varieties with this footnote: "Use only hardy, adaptable geographic races." There seems to be no good reason why hardy strains should not be obtainable by selection. Fine large specimens of this shrub have been observed by the writer at Avonlea, Dinsmore and Ruthilda in Saskatchewan. An excellent plantation of Russian olives may be seen in the city park at North Battleford. This group includes some 24 large specimens. The distinct color contrast may be noted in the accompanying picture. Following the two relatively unfavorable winters of 1949 and 1950, these plants showed only a small amount of winter injury—actually less than occurred to certain other common species of trees and shrubs growing in the same park. This group of Russian olives, in township 44, would seem to offer possibilities as a source of good seed. According to our information requests for such seed would be given careful consideration by the North Battleford Parks Board.—D. R. Robinson, extension horticulturist, University of Saskatchewan, Saskatoon.

Failure of Trees to Grow

JOHN WALKER, superintendent of the Forest Nursery Station at Indian Head, says that most failures to get trees established in prairie districts are a direct result of insufficient soil preparation.

Where tree planting is planned for shelterbelts around the farmstead or wind protection around the fields, the best assurance of success, he argues, is proper summerfallowing in advance. This stores water against the possi-

bility of a hot, dry planting season the next spring, and in addition, the summerfallow tends to cut down the growth of weeds and grasses around the young trees.

Mr. Walker recommends that under normal prairie conditions the land for trees should be properly broken up, plowed a second time, and thoroughly cultivated for two seasons before trees are planted in it. This produces a pliable soil with relatively open subsoil, and assures a reserve of soil moisture, as well as comparative freedom from weeds and grass. If the land has been cropped, at least one year of careful summerfallowing is advisable, beginning either late in May or before the middle of June. To conserve the greatest amount of moisture, it follows that all weed growth should be kept down throughout the entire season.

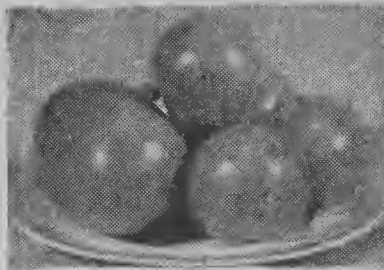
Notching and Nicking

AN article in a recent issue of the Journal of Agriculture published by the New Zealand Department of Agriculture, carries one or two ideas which might prove useful occasionally to fruit growers in western Canada.

One of these has to do with the "notching" of dormant buds on apple varieties to make sure they break dormancy in the spring and produce growth where it is wanted. E. B. May, departmental instructor in Horticulture at Auckland, says that in some apple varieties, the lower buds on last year's wood frequently fail to break, and remain dormant even though the shoot has been cut back for part of its length. To overcome this tendency, he recommends notching the bud in the spring, about a quarter-inch above it, with a notch about 1/16 inch wide right through to the wood and for the full width of the bud on each side. This removal of a tiny bit of bark leaves a wound which will heal over, however, in a few weeks. The effect of notching seems to be to initiate shoot growth from buds that might otherwise remain dormant. By this method, branching may sometimes be induced nearer the ground, or side shoots started at a place convenient to the grower.

What is called "nicking" the buds also comes in useful at times. When a tree is pruned in the spring, it is often found that last year's growth of some shoots was very vigorous, and perhaps should be cut back rather severely. If this is done, however, the tendency is for strong growth to be encouraged

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nearer the cut, which tends to reduce the opportunity for growth of the shoots springing from the buds lower down. Nicking the top bud tends to hold it back and gives the lower ones a chance. This is done by cutting back last year's growth to whatever point the grower thinks wise, and then pressing the sharp edge of a knife into the bark and right through to the wood about $\frac{1}{4}$ inch below the top bud.

Thus, notching above a bud tends to break its dormancy, and nicking below moderates its growth and gives the buds below a better chance.

Growing Nut Trees

At the Morden Experimental Station, successful plantations have been established of the Manchu filberts, Manchu walnuts, the American black walnut and the white walnut, or butternut. The latter two are relatively hardy strains from Minnesota and the Lake Superior region. Persian and Japanese walnuts, chestnuts, birch, hickory and European filberts, have not been hardy enough to withstand the prairie climate.

Morden says that nut trees grow well on various types of deep soil, but prefer soils high in organic matter and able to carry plenty of moisture. Soil should be fertile, and autumn is the best time to plant nut seed. Filberts are sown at a depth of one to two inches, and walnuts at from one-and-a-half to three inches.

The best way to get black walnuts and butternuts out of the shell, with the least breaking of the meat is said to be to place the nuts in boiling water for about five minutes, then crack the shell and pull on one end of the kernel with a pair of tweezers or forceps. It is reported that the meat comes out like a piece of rubber and after cooling retains its pleasing texture and flavor.

Root Stocks for Tree Fruits

At least some, and perhaps a considerable amount of the dissatisfaction that has arisen from the planting of fruit trees on the prairies, is the result of poor root stocks. There are many different kinds of root stocks, but on the prairies, seedlings are usually grown of hardy varieties such as Columbia, Bedford, Osman and other crabapples, and the named varieties are grafted on in the nursery.

The hardiness of the root stock, according to B. R. Wilkinson, of the Experimental Station at Morden, is not only determined by its resistance to winter cold. Other factors, such as resistance to attack by insects and disease, ability to withstand drought and excess moisture, as well as high soil alkalinity, are important.

There is no satisfactory root stock for the true sour cherry, when grown under prairie conditions. Mahaleb stock is fairly satisfactory, but the trees must be planted deeply, because the stocks generally kill to ground level in winter.

"Present information," says Mr. Wilkinson, "indicates that seedlings of the American wild plum are by far the most desirable stocks for plums, sandcherry-plum hybrids, and Nanking cherries. They are uniform, hardy, and widely compatible. They have a tendency to sucker, but this is not a serious problem where clean cultivation is practiced. Seedlings of the Canada plum are also widely used, and they, too, are fully hardy and widely compatible. However, they are

more difficult to bud than the American plum seedlings, and usually have a shorter budding season."

Sandcherry seedlings can be used for the smaller plum types, including sandcherry-plum hybrids and sandcherry selections, but when used on the more vigorous plum varieties they tend to stunt the tree, and also to develop lime-induced sclerosis. Where hardy apricot varieties are to be used, Manchurian and Siberian apricot seedlings are usually used to secure hardy stock, because these produce strong nursery trees.

Mr. Wilkinson points out, however, that apricots on apricot seedlings are highly susceptible to lime-induced sclerosis (yellowing), and to injury from standing water or heavy, poorly irrigated soils. "For this reason," says Mr. Wilkinson, "plum stocks are being tested at Borden, using short intermediate or buffer stocks of an apricot sandcherry hybrid, to avoid the incompatibility which exists between apricot and plum."

Know Your Shrubs

by DR. R. J. HILTON,
University of Alberta

Hardy Shrub Roses

In an earlier part of this series, we discussed the place that the Altai rose might have in the garden. There are other hardy roses that should be used more than they are, and among these are the *Rosa rugosa* hybrids, the Red-leaf rose, the *Rosa foetida* hybrids and hybrids having native wild rose ancestry. For the rose fancier who does not wish to be obligated to pit, store or otherwise protect tender Hybrid Tea and Hybrid Perpetual roses every winter, the hardy shrub roses are a real boon, and with good soil, a fairly sunny location and the partial protection from the elements that one finds in almost every home garden or shrubbery border, these roses will provide beauty and interest to the amateur and professional alike.

Rugosa hybrids are coarse-leaved, upright-bushy plants that are usually hardy to the tips. If a severe winter kills them back, they will recover rapidly and still show plentiful bloom in midsummer. Hansa is the best known, a large, double red that is very fragrant. F. J. Grootendorst has double bright red flowers and a long blooming season. Blanc de Coubert is a beautiful pure white Rugosa and a rich pink variety in this group is Conrad Meyer. Harrison's Yellow and Persian Yellow are very hardy, upright members of the *Rosa foetida* group. They are double-flowered, attractive and dependable. The Red-leaf rose, *R. rubrifolia*, is a vigorous, upright shrub to six feet, with purple-red leaflets and stems, and very small, deep pink single flowers. Betty Bland is a rapid growing multiple-hybrid developed by prairie rose breeder Dr. F. L. Skinner, and having as one parent a native prairie rose, *R. blanda*. It has medium-sized, dark pink, double flowers and flowers profusely in late June and early July.

Other hybrid roses deserving a place in our gardens or shrub borders are Prairie Sailor and Prairie Girl. These were developed at the Morden Experimental Station and are a lasting tribute to Wm. Godfrey and his long career as head gardener at Morden.

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Pemberton

Continued from page 9

their isolation by launching themselves into the seed potato field. The success of their venture is a matter of record, for Pemberton potatoes won international acclaim for their texture and starch content. The 1950 B.C. Potato Growers' Show saw the Valley take 19 first prizes for potatoes and potato seed.

Since its advent into this field, Pemberton District has been a "closed" seed potato area for the production of Foundation, Foundation A, and Certified stock. From seed planting to harvesting and shipping there is rigid adherence to government rules. The five potato varieties allowed under present regulations are: Netted Gem, Early Rose, White Rose, Green Mountain, and Epicure. Netted Gem and Early Rose are rated most popular among Valley growers, the former being specially prized for its excellent shipping qualities.

Last year's slump in potato prices saw the evils of overspecialization finally catching up with Pemberton farmers. The last year or two has marked the sale of many tons of choice seed potatoes for table use, and an increase in hay and pasture acreage. Valley agriculture is completing the circle in a swing back to the livestock production that sustained John Ronayne and his friends before the railroad came.

THE pending completion of the P.G.E.'s northern extension, bringing promise that feed grain will soon be brought in directly from the prairies, has sparked a heavy increase in Valley beef herds. Much of the newly reclaimed land, already shaking free of water that has frustrated plant growth for so many years, is expected to be put under grass.

Looking still farther ahead, to a hoped-for southern rail extension that will make daily milk shipments to Vancouver feasible, many Pemberton farmers are considering a return to the dairy economy that dominated the Valley some 25 years ago. Harry McCulloch, a relative newcomer to the district, is experimenting with dual-purpose stock to be ready for any new trend, be it meat or milk.

Control of the river, coupled with improvement of rail facilities (Pemberton's sole link with the outside) is expected to bring a rush of new settlers into John Curry's hidden valley.

In the words of Bob Taylor, secretary of the local Dyking District organization, "The end of Pemberton's isolation is near."

Record Angus Sale

THE Anoka Farms sale (Edwards Brothers, London, Ontario), on October 8, is reported to have established a number of price records for Canada, for all breeds. Here are some of the figures: 50 head averaged \$2,697.50; 42 offered by Edwards Brothers averaged \$2,736.90; 30 cattle bred by Edwards Brothers averaged \$3,227.15. The top and second top-priced bulls brought \$15,000 and \$12,500. The six top-priced cows brought \$5,300, \$5,000 (two), \$4,700, \$4,600 and \$4,300. The top five head averaged \$8,560 and the top ten \$6,340.



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Now talk with the owner, Jerome Berchard of Lajord, Sask. He says, "The D4 is mighty good in sloughs and blow dirt. We've had no repairs since we bought it, 1821 hours ago. We use it for bulldozing snow in the winter and other work. I am very pleased with the long life, fuel economy and dealer service of 'Caterpillar' Diesel Tractors."

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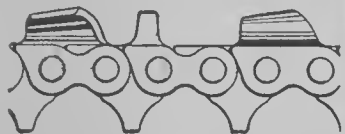
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Some chain saw filers prefer the Black Diamond Half Round Chain Saw File for sharpening chisel-type chains. Its handy size and two cutting surfaces (flat and half round) make it popular for "on-the-spot" filing. Length, 6". Cross section, 5/16" x 5/32".

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Workshop in February

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Level from Steel Square

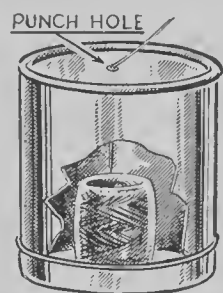
You can work your steel square into a combination level and steel square as indicated in the drawing herewith. When the plumb bob is suspended as shown and points to the mark indicated, the vertical thread is then parallel with the vertical leg of the square. Then the surface is level, of course, or the upright leg is plumb. This device is exceedingly sensitive, more so than the bubble level.—W.F.S.

Knee Pads

I made a handy pad or protection for my knees or trousers from an old 16 by 600 auto tube. It was marked off about 11 inches on the inside circle, and 18 inches on the outside, and then the cuts were made straight across. It fits snugly around my knees when I am wearing heavy breeches. It slips over your shoes with the short side back, and will stay in place nicely. I find it especially good for cross-cut sawing, loading rocks on stoneboat, in plowed fields, and for such jobs as trowelling concrete.—I.W.D.



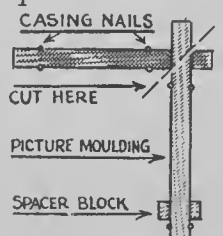
String Holder



An inverted tin can serves as an excellent holder for a ball of twine, to keep it from jumping around when string is used. Punch a hole in the bottom, run the string through the hole, put the ball into the can, and then put the cover on it. I like inverting the can best, because when string is put through the top cover is sometimes pulled off. If desired, the inverted can may be made a permanent fixture by tacking the cover to a table.—W.F.S.

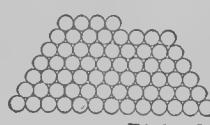
Picture Frame Mitres

The quickest and best way to cut accurate mitres for picture frames is shown in the sketch. First, lay a square on the work bench, drive four casing nails along its outer edge and place the picture molding against the nails, one over the other, as in the sketch. Then drive in four other nails to hold the two pieces in place. Make a spacer block as thick as the molding and slip under the free end of the piece lying over the other. With a hacksaw, cut through both pieces diagonally at the overlap. Because both cuts are made at the same time, the mitre will fit perfectly.—H.E.F.



Counting Piles

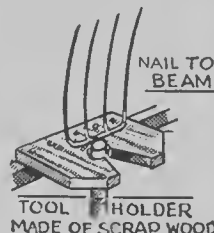
If you want to count a pile of posts, bags or other similar material, count the number in the lowest layer and multiply by a number that is one greater; then, divide by two, and you have your answer.



Thus, in Figure 1 there are seven posts in the lowest layer, and seven multiplied by eight and divided by two equals 28. For a pile as in Figure 2, make three counts: A, the number of posts in the lower layer; B, the number of complete layers; and C, the number of posts in the top incomplete layer. Multiply A by 2, subtract B, add one. Then multiply by 1/2 of B and add C. Following the diagram, we would multiply 13 by two and subtract six, then add one to get 21; then multiply 21 by three and add four, to give us 67 posts in the pile. For a large pile, this method will save time.—W.F.S.

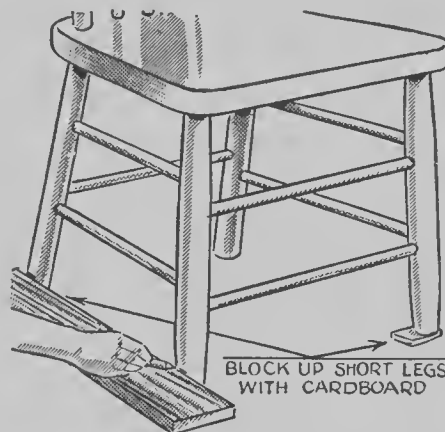
Small Tool Holder

There are many small tools about the farm which look untidy and may even be dangerous unless they are hung up out of the way. These include such tools as forks, shovels, scoops, spades and others which are in use frequently. You can make a convenient holder by using a piece of board in which a slot and hole is made as in the drawing. Nail this on top of a crosspiece and several of these will take care of the tools most commonly in use.—I.W.D.



Uneven Chair Legs

Unsteady chairs or tables, due to uneven legs, are easily fixed. Stand the chair on a perfectly level spot, and move the top from side to side to determine which legs are shortest. Place a suitable piece of cardboard or similar material under the short legs, so that the chair stands solidly. Next,



take a thin, straight piece of board about three feet long and lay on the floor next to two of the legs, making a pencil mark along the edge of the board on the outside of each of the two legs. Do this on all four sides; then, with a fine-toothed saw, remove the four tips of the legs by cutting along the pencil marks, and if measurements and sawing are carefully done, all legs will be of the same length.—H.E.F.



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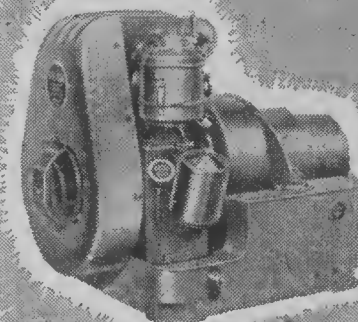
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See page 46



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FARM YOUNG PEOPLE

Charming Nature Story

THE nature story "Windruff of Links Tor" by Joseph E. Chipperfield deserves a place among the classics of this form of fiction. A happy release from the galaxy of stories about emotional and frustrated human beings, this book deals with an Alsatian dog—a happy animal, most certainly neither frustrated nor yet excessively emotional. The dog hero — Windruff — is lured away from its litter mates by a vixen that had lost its puppies to foraging gypsies. The fox teaches the growing dog all its wiles and wood craft, but never succeeds in weaning it away from the attractions of human company—an association that Windruff finally resumes.

The author obviously possesses an intimate knowledge of nature and a warm affection for it. His human characters are prosaic, but when he returns to a description of nature his mastery of the subject again asserts itself. The story is simple but with a simplicity that is of nature.

The author has an unusual ability to conjure up the scenes that he is describing, and can produce in all their grandeur and wildness the scenery of Dartmoor in Devon, England, the area in which the story is staged. This ability in the author is capably supplemented by the black and white drawings of Helen Torrey, an illustrator of obvious talent.—R.H.

Windruff of Links Tor—by Joseph E. Chipperfield. Longmans, Green & Co., Toronto—\$3.75.

Growing Membership

MEMBERSHIP in 4-H clubs in North Dakota is still growing. This year it has reached an all-time high of 13,940, an increase of 906 compared with 1950. Membership has more than doubled in the last five years.

There are 1,174 clubs in the state. Of this number there are 556 home economics clubs, 450 agricultural clubs, and 168 general clubs which have both boys and girls as members. The membership includes 7,767 girls and 6,173 boys.

M. C. Altenburg, state 4-H leader, emphasizes the fact that this work could not be carried on or such a membership secured without the willing co-operation of an army of volunteer adult leaders. At the present time there are 2,350 such people giving their time to assist the 4-H club program.

New Zealanders to U.S.A.

THE New Zealand Dairy Board recently selected four members of Young Farmers' Clubs to go to the United States and gain some first-hand experience of dairy farming in that country. Candidates were selected from districts throughout New Zealand, and 11 finalists were examined by a committee of the Dairy Board.



One of the illustrations by Helen Torrey in "Windruff of Links Tor."

Contestants were examined on their knowledge of and interest in the dairy industry; they were questioned as to their general reading; they were interrogated to determine their knowledge of important New Zealand people.

At the conclusion of this examination they were given a short time to prepare a ten-minute speech on either why they were anxious to visit the United States for six months under this exchange scheme or on how knowledge and experience gained in the visit would be valuable to them and to the dairy industry.

General knowledge, intimate acquaintance with the dairy industry and the ability to speak well played a large part in the final selection. The successful candidates ranged in age from 21 to 26 years, and all were judged to be fitting representatives of their country.

An Amusing Game

"FLOATING the Needle" is a game played with needles, tumblers, and small pieces of tissue paper.

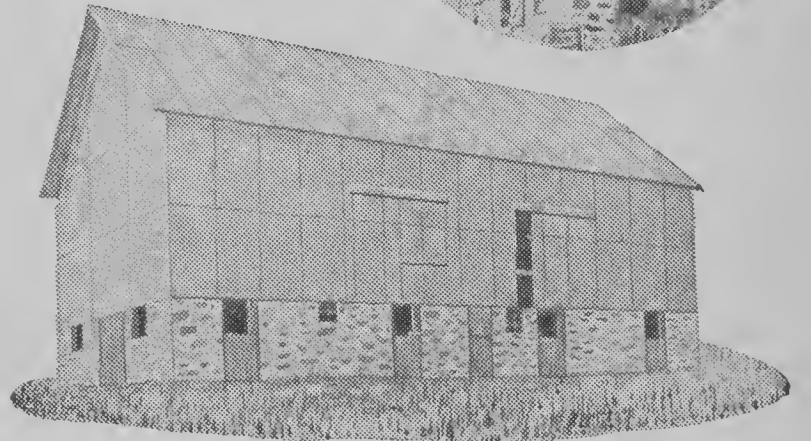
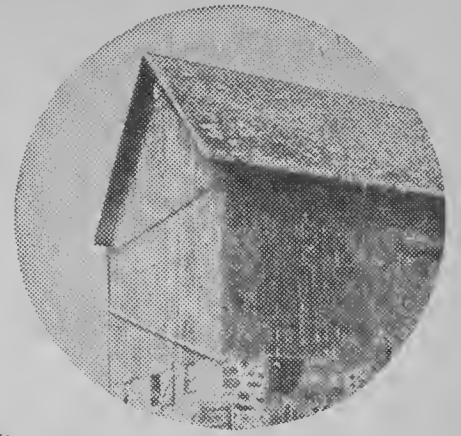
Players sit around a table and each one is given a tumbler almost full of water, a small sewing needle, and a piece of ordinary tissue paper. The paper is square and is cut so that it fits easily inside the top of a tumbler.

The idea is to float the needle on the surface of the water. Each player's needle is given a light smear of sewing machine oil to help in floating it. The players are told that they can use the tissue paper as a raft for their needles, but the winner will be the one whose needle remains floating without the aid of the paper.

It is a simple matter to place the tissue on the water and then rest the needle on it. But the players will be so eager to get their needle floating on its own that they will probably start to push the paper or to slide it away. In this case the needle will almost certainly sink. With very gentle prodding of the paper all round the edges the desired result can be achieved. But this needs practice.

The real secret is to leave the needle and tissue alone. In a very short time the paper will become sodden and sink of its own accord, leaving the needle floating. A prize can be given to the winner—perhaps a tumbler or a packet of needles!—Gordon Allen.

before
and
after



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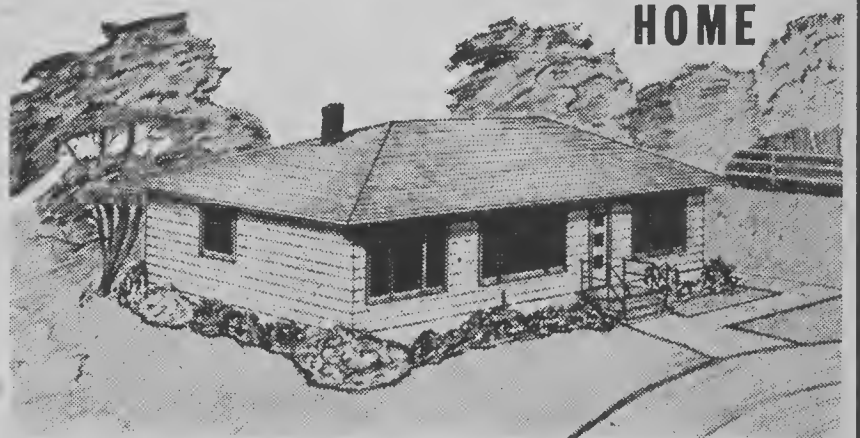
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POULTRY

More Meat

IN 1945 a meeting was held of representatives of major poultry organizations, poultry scientists and government authorities in the United States. They decided the chicken should be improved as a meat producer and out of their meeting grew the Chicken-of-Tomorrow committee, and a program to breed better meat birds was started.

The result is shown on the right. Both of these chickens are 12 weeks old but the new meat-type bird in the foreground, developed under the Chicken-of-Tomorrow program, weighs five pounds as compared with less than three pounds for the ordinary bird.

Hens Prefer Water to Snow

IN many poultry houses it is difficult to keep water from freezing, and the question arises as to whether snow is a satisfactory substitute.

Investigational work was recently conducted to determine if it made any difference to production levels. In two different years two groups of 150 hens each year, having about the same body weight, age, and apparent laying ability, were used. One group had water to drink and the other had only snow during the cold winter weather when water would ordinarily be frozen. Neither group received wet mash.

Egg production in the group receiving water was 16.2 per cent higher per bird than that of the birds receiving snow, and feed consumption was 10.6 per cent less for the group receiving water.

Since egg production was lower and feed consumption higher in the case of the birds receiving snow it follows, says J. L. Tessier, Experimental Station, Kapuskasing, Ontario, who did the experimental work, that water should always be kept before the laying flock, even if this involves extra work to keep it from freezing.

Frozen Wheat for Poultry

THERE is a general belief that frozen wheat is of limited value and may actually be harmful in the laying hen ration. An experiment recently concluded at the Experimental Farm, Brandon, Manitoba, indicates that there is no basis for this belief.

Two rations were prepared designed to compare frozen wheat weighing 42 pounds a bushel with normal wheat weighing 62 pounds a bushel as the only grain in the ration. Comparable groups of pullets were fed each ration for a period of 257 days.

The results of the feeding trial showed no difference in the number of eggs laid by the birds consuming frozen wheat and those fed normal wheat. Furthermore the mortality rate in the group fed frozen wheat was



A planned breeding program has developed a better meat producing chicken as described at left.

8.0 per cent compared with 12.2 per cent in the other group. The birds on the ration containing frozen wheat consumed more feed, requiring 7.9 pounds of feed per dozen eggs produced compared with 6.8 pounds of feed per dozen eggs produced by the birds being fed normal wheat.

The results of the experiment indicate that frozen wheat is quite satisfactory in a poultry ration and is approximately equal to normal wheat in feeding value for laying hens.

Producing Hatchery Eggs

A POULTRYMAN with a high quality flock can increase his profits by producing eggs for the use of hatcheries, says B. F. Tinney, of the Federal Experimental Station, Charlottetown, P.E.I. If a producer is already taking the care necessary to produce high quality eggs, the additional care required to produce hatchery eggs should offer no great difficulty.

Before making final plans the producer should contact his department of agriculture to determine breeder and hatchery flock policy; he should also contact the hatcheryman with whom he wishes to deal as to his particular needs. It is necessary to be familiar with regulations with respect to type of flock, culling, males, environmental (sanitary) conditions, blood testing, disease control and the like. This information is available from the agriculture department.

Start to feed a good quality breeder or hatching mash three to six weeks prior to the sale of hatching eggs. Breeder rations are slightly higher in protein than standard laying mash and contain higher percentages of other ingredients such as wheat germ, milk products and riboflavin. This tends to ensure a higher per cent hatch of stronger chicks.

Clean nests must be provided and the eggs should be gathered frequently. Most hatcherymen ask for an egg of a certain size; grade to the weight limits required and remove oversize, misshapen eggs, those with thin shells and rough and poor shell texture, as well as dirty eggs. The eggs must be cooled quickly and crated

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36.00	18.50	9.50	W.L. Pul.	39.00	20.00 10.25
5.00	3.00	2.00	W.L. Ckl.	5.00	3.00 2.00
20.00	10.50	5.50	B. Rocks	21.50	11.25 6.00
34.00	17.50	9.00	B.R. Pul.	37.00	19.00 9.75
18.00	9.50	5.00	B.R. Ckl.	19.00	10.00 5.50
20.00	10.50	5.50	N. Hamp.	21.50	11.00 5.75
34.00	17.50	9.00	N.H. Pul.	37.00	19.00 9.75
18.00	9.50	5.00	N.H. Ckl.	19.00	10.00 5.50
Approved			R.O.P. Sired		
21.00	11.00	5.75	Sussex	22.50	11.75 6.10
34.00	17.50	9.00	L.S. Pul.	36.00	18.50 9.50
18.00	9.50	5.00	L.S. Ckl.	19.00	10.00 5.50
19.00	10.00	5.25	W. Reks.	21.00	11.00 5.75
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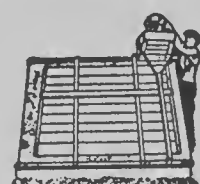


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with the small end down. Tests have shown that eggs stored with the large end down lose grade rapidly, and a low grade egg is not a good hatching egg.

The percentage hatch decreases with the length of time held in storage, and this decrease accelerates if the eggs are held for periods in excess of seven days. During the time that eggs are stored they should be held at a temperature of 60 to 65 degrees F., and a relative humidity of 75 to 77 per cent.

Managing Turkey Hens

THE producer of turkey eggs for hatcheries must take some precautions not necessary for the production of market birds. This is becoming increasingly important on the prairies due to the steady growth of the commercial turkey hatching industry and the fact that prairie producers are not producing enough turkey eggs to meet the demand.

One of the first essential steps prior to starting production of commercial turkey hatching eggs is to bring the flock under the turkey approval policy of the province in which the breeder resides, advises the Experimental Farm, Swift Current, Sask.

Rather better housing is required for breeders than is needed for market birds, and this is particularly true where birds are brought into production early in the season, as there is some reason to believe that fertility may be impaired by low temperatures just prior to hens commencing to lay. This calls for insulation to give an even heat, and ventilation to remove odors and keep the litter dry.

Breeder hens that are totally confined require no less than nine square feet of floor space each. The entire floor should be as clear as possible of drinking pans, feed hoppers or other obstructions that will interfere with mating. Feed troughs six inches wide and eight inches deep can be attached to the walls. Single or community nests have proven satisfactory.

Males should be provided at the rate of one male for every ten females. Many breeders place one half the males with the hens and alternate twice daily. A breeding saddle for each female prevents their being damaged during mating. Artificial lights set to provide a 13 to 14-hour day will bring the hens into early season production.

Hatcheries do not pay for infertile eggs, so profits can be quickly lost if hatchability is low. Feeding, inheritance and management all influence hatchability and will determine whether a turkey project will make a profit or a loss. Low hatchability alone can ruin an otherwise profitable undertaking.

Four to six weeks before eggs are expected it is wise to place the hens on a turkey-breeder diet, and to provide milk also if it is available. Turkey-breeder concentrates can be bought and mixed with home-grown grains to make up a breeder mash. Whole grain should be fed as recommended by the manufacturer.

If eggs are collected frequently and stored at 55 degrees F. hatchability will not be damaged. Special turkey-egg fillers which fit the standard egg case and hold 200 eggs can be purchased, and will help to reduce breakages.



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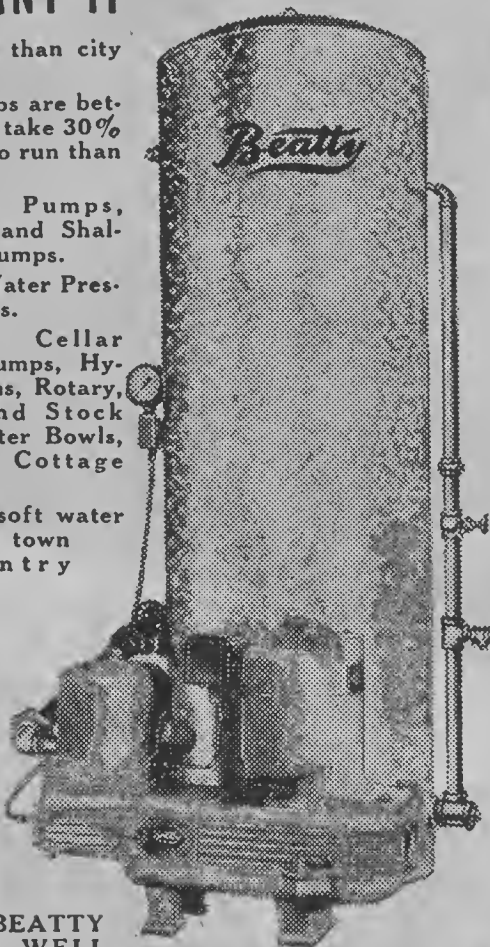
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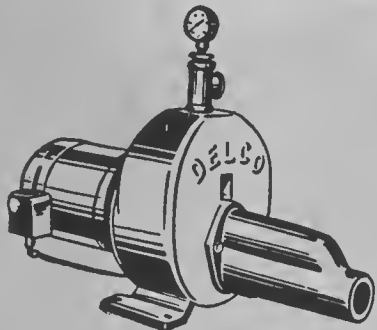
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Agriculture on the Forest Fringe

Technical people have been grappling with the problem of how far farming should encroach on forests and wood lots

by ROGER PHILLIPS

SHALL the good soil grow wheat or trees? This question has plagued agrologists and forest administrators in Saskatchewan for the past 20 years and came in for a good deal of discussion at a joint conference of the Canadian Institute of Forestry (Saskatchewan subsection) and the Saskatchewan Institute of Agrology held in the province's northernmost city of Prince Albert last December 17.

The so-called problem of agricultural penetration into forested and forest-fringe areas dates back to the drought years of the "hungry '30's." During that depression period there was a regular exodus of farm families from the dry, parched prairies northward into and along northern Saskatchewan's forest boundaries.

It cannot be said that these people were not justified in making the move. They sought nothing more than a decent living. Unfortunately, the settlement that occurred was almost totally indiscriminate. There was little regard for sound farming practices. Often, forested land picked out by the new settlers turned out to be unsuitable for grain growing. Then again, clearing costs were sometimes prohibitive. The people lived great distances from available community services, so necessary for bodily health and spiritual happiness. In many cases, the former prairie folk found that instead of bettering their lot their hardships multiplied.

Forestry, as could be expected, looked upon the invasion with foreboding. It visualized the waste created by settlers' fires and the loss of forested land which would normally produce commercial timber.

Oldtimers in both forestry and agriculture who witnessed the settlement readily agree that the whole story was one of gross mismanagement, a situation which caught both the public and government of the day completely by surprise.

And to this day, agricultural groups have continued to exert pressure on the government for more land within forest boundaries. The department's forestry branch quite naturally has seen fit to resist this pressure.

Dr. J. Mitchell, head of the soils department at the University of Saskatchewan and chairman of the conference, summed up the situation this way: The northward migration of settlers during the '30's has opened our

eyes and now that conditions are more or less stabilized it is time to lay plans for the proper utilization of the North's great resources, at the same time, making sure that nature's laws are adhered to. As professional men, he said, "we are here to give our scientific views."

Professor H. Van Vliet, head of the university's farm management department and guest speaker, brought out a point farmers in general will not want to accept. He said agriculture is normally an overpopulated industry. There just isn't enough land for everyone interested in farming, so the surplus rural population must go into other fields or extend its farming activities to sub-marginal production, i.e., sub-marginal areas in the North.

He discounted northern agriculture as a food supply base for rapidly expanding northern development in the fields of mining, fisheries and tourism. He said the solution to the ever-growing need for greater food supplies lay in better use of existing agricultural lands. He pointed out that there was no room for "shoe string" farm settlement (where the high costs did not warrant the effort) and warned that any future agricultural inroads into the forest should be orderly and strictly supervised.

Should farm settlement be permitted in forested areas, he wanted standards kept high. Farmers would have to be equipped, both financially and in practice, to ensure sound, long-term, commercial operations and allowed only in areas where necessary community services could be maintained on their own account.

Professor Van Vliet's views reflected the general feeling of most of the agrologists and foresters present. Actually, the two representative groups have, of late, achieved a degree of success in settling the forest-agriculture land use problem. Last May, an inter-departmental land use committee, consisting of representatives from the provincial departments of agriculture and natural resources, was set up.

Its purpose: to study reports submitted by a Dominion soils survey team, provincial agriculture department specialists and a department forester, and decide whether land inside forest boundaries should be given over to agriculture and whether land outside forest boundaries should be converted to forest use.

It is understood that the committee has already made studies involving some 225 square miles of land both in and outside the forest. None of its decisions have been made public as yet. Nevertheless, it is taken for granted that any future disposition of land, in or outside the forest, will depend on whichever decision results in the greatest, long-term benefits to Saskatchewan as a whole.

The conference found little to disagree with in this recently inaugurated provincial land use policy. That is, in principle. There were some differences of opinion as to methods of approach. However, the conference did achieve a definite purpose in bringing together on common ground the province's agrologists and foresters. This was, in effect, a milestone of some historical importance in Saskatchewan, for the two groups have been at odds over the question of forest farm settlement for the past 20 years.

Wanted 50 Bears

*For the Busbies
of the Guardsmen*

ONE of the most distinctive features of the British Brigade of Guards is the traditional black bearskins they wear, huge, obliterating pieces of headgear made of black bear's fur. Skins for these essential articles of a Guardsman's uniform come from Canada, and in the BBC's "Radio Newsreel" Pat Keighley, of the Canadian Broadcasting Corporation, revealed the struggles that have been going on in Canada to get sufficient skins for Britain.

The hunt was up in the north of British Columbia and the nerve center of the expedition was Prince George. Far beyond it lies a tract of rugged country which is one of Canada's last big game reserves. Businessmen were counting on a large bag of hides with which to supply the Guards, but the united efforts of many hunting parties did not produce the 50 skins that were needed. Members of the Junior Chamber of Commerce begged or borrowed guns and trekked off to do their bit for Britain in an unorthodox way. After their trip had ended the total number of skins was still far short of 50 and the professional hunters of the district were called in. They generously agreed to give their services but out of pocket expenses had to be met.

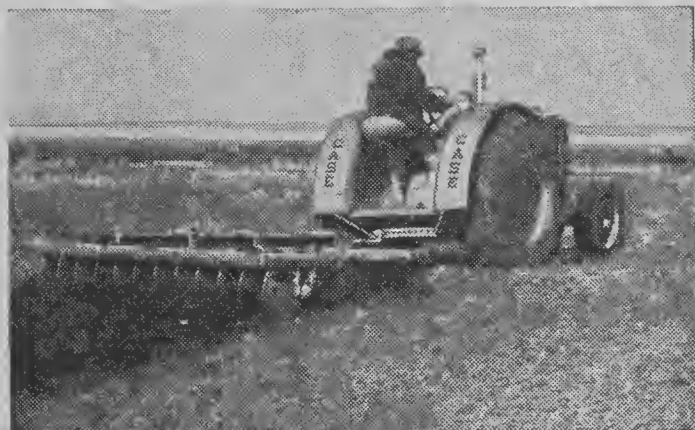
The people of Prince George set out to find these by putting on a big festival in July in which every kind of money-raising event was included. The money was found at last and it then remained for the hunters to get the bears. They did their stuff handsomely and the Junior Chamber's president announced that his members were going all out to scrape and clean the hides in time to get them to London by Christmas. Bruce Lamb and a dozen other businessmen gave up all their free time to the job of preparing the skins for shipment, and as they weighed about ten or 12 pounds each it was a weighty consignment that eventually went to Britain on a freighter from Vancouver.

The Guards say that each skin will make two of their traditional head-dresses and the men of Prince George are all ready now to begin collecting next year's consignment in good time.



This farm has been cut out of forest territory. It is an open question whether trees or crops are more productive in such areas.

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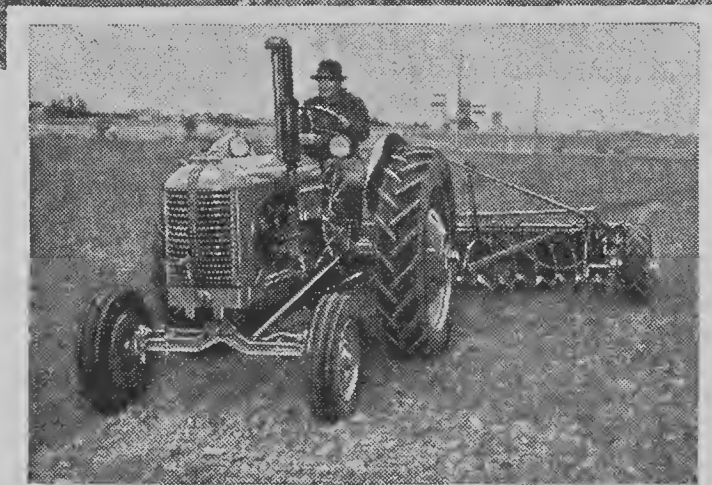
"My 4-5 plow Case Model 'LA' Tractor has lots of power . . . my son (shown above) says it's a lot better to drive than our previous tractor. We pull a spike tooth harrow behind our 'CO' Tiller with it and the 'LA' still has lots of power left . . . that Case Tiller is the best implement I've got."—M.M.F., Cardston, Alberta.

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"My Case 'DC-4' Tractor does a lot of hard work," writes Saskatchewan wheat farmer Adolf Miller (right), "but it isn't hard on gas. I wouldn't have anything but Case." The "DC-4" is the high-clearance model in the Case 3-plow "D" Series, popular with Prairie Province farmers for wading through mud and snow. They like its power and economy, too.



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MONTHLY

More Wheat to Vancouver Terminals

Increased export shipments of western Canadian wheat from west coast terminals led the Canadian Wheat Board, in mid-January, to request elevator companies to divert to Vancouver terminals milling grades of wheat which would normally go to the Lakehead from 82 Saskatchewan shipping points. The points affected were those with a freight differential in favor of Fort William of four cents per hundred pounds, not included in previous diversion orders. The order also covered points south of the main line of the Canadian Pacific Railway which have differentials of five cents per hundred pounds in favor of Fort William.

The instructions, which affected all grades of wheat expected to grade No. 4 Northern or better, with the exception of tough and damp grades, was issued in order to facilitate shipments through the Panama Canal following the closing of Great Lakes shipping. The fact that the shipping area had to be extended into Saskatchewan points indicated continued interest in Canadian wheat abroad.

Shipping activities from west coast terminals is also encouraged by purchases of milling wheats on the part of Japan and India. Up to the time of writing, Japan had taken in the neighborhood of four million bushels and India fifteen million bushels. In addition to that sold to India, the trade department announced early in January that \$10,000,000 worth of No. 4 Northern wheat would be shipped to that country as a gift under the terms of the Colombo plan, the cost to be borne by the Federal Government.

Under an agreement between Canada and India, commodities made available to the latter for relief or other purposes may be financed out of the \$25,000,000 which Canada contributed to the Colombo plan for the development of south and south-east Asia. In turn, India agrees to use the rupee value of such shipments for capital development projects such as hydro and irrigation projects.

This action on the part of the Canadian Government is one which will almost certainly receive the approval of the majority of western farmers as a step in the right direction. This was evidenced at the recent Western Agricultural Conference when farm representatives passed two resolutions which endorsed the principle of "generous lend-lease," or direct gifts to needy peoples "as an investment in Peace and Good Will." It would be expected that the costs of such assistance would be met by the Canadian nation as a whole.

Western nations are becoming increasingly aware of the power of food as a weapon of peace. All too often in the past, the support which Communism received from millions of starving individuals was given in the hope of bettering a situation which could be no worse insofar as sustenance was concerned. While both Canada and the United States have contributed greatly to world recovery, attention has been directed largely toward assisting European nations to

reinstate obsolescent and worn-out industrial capacity. Perhaps too little attention has so far been given to enabling starving Asiatics to obtain sufficient food to maintain life. Farmers traditionally devoted to all-out production see in "generous lend-lease" policies a possibility of sharing surpluses while at the same time contributing to the cause of peace.

Inflation and Farm Costs

At year's end the Dominion Bureau of Statistics reported farm income for the first nine months of 1951, up 25 per cent over the corresponding period in the previous year. The increased income was attributed chiefly to higher livestock prices during the entire period, and to Canadian Wheat Board payments during the first six months of the year. Income from grains, seeds and hay, including Wheat Board payments, amounted to \$509,400,000 in the first nine months of 1951 and \$311,300,000 during the same period in 1950.

While there can be no criticism of the method in which these figures are compiled or with the manner in which they are reported, they may be, and undoubtedly are, often misinterpreted by the non-agricultural population in a manner which would indicate that western farmers are much better off than they really are. Two possible sources of misconception are inherent in the situation. Firstly, while the 1951 figures concern income received in that year, Wheat Board payments applied to grain produced in previous years and is therefore the result of productive effort of those earlier years. Secondly, high cash income figures may be misleading to the non-farming population unfamiliar with what has happened to production costs.

Cash income reports give no indication of net returns, nor do they indicate the actual purchasing value of, say, a bushel of wheat, in terms of the things farmers buy. Since a considerable proportion of the increased income in the 1951 period is attributed to Wheat Board payments, we may take wheat as our example. Western Canadian wheat is sold at a fixed price, either under the terms of the International Wheat Agreement, or on the domestic market at the I.W.A. price, and the wheat grower therefore receives none of the advantages of greatly increased price levels. On the other hand, costs of production have risen tremendously. Dominion Bureau of Statistics estimates of the price received by farmers, and the index of prices of commodities used by farmers, indicate that the purchasing power of a bushel of wheat is roughly on a par with 1937. This does not of course mean that the wheat producer is no better off than at that time and it would be ridiculous to pretend that he is not. A number of factors has enabled him to maintain a fair standard of living despite greatly increased production and living costs. Crop conditions in 1937 were not the best and total production was much lower than in recent years. Another factor tending to better the farmers' position is the greatly increased efficiency of present-day production; modern machinery, chemical herbicides, and larger, more economical

COMMENTARY

units of production increase the proportion of net cash return after the deduction of operating expenses. The rise of production and living costs in recent years has, on the other hand, tended to proportionately reduce this net return and, for similar reasons, the purchasing power of the net return available to cover his living costs.

While it is fully recognized that agriculture is not the only group in Canada which has been seriously affected by inflation, as the west's basic industry, it plays more than a proportional role in the economic well-being of the nation. Farm organizations have become increasingly aware of the problem and, as a result, a call has gone out for immediate study of the problem. The Western Agricultural Conference held in Winnipeg, January 17 and 18, fully endorsed the following resolution:

Whereas the present inflationary trend is commonly regarded as Canada's major economic problem excepting only the problem of national defence, and

Whereas any study of the indices published by the Bureau of Statistics shows that inflation has more seriously affected the wheat producer than any other class, inasmuch as his major product is sold under ceiling prices which will continue until July 31, 1953, and

Whereas reduction of purchasing power on the western prairies will ultimately affect very seriously the general economy of Canada,

Be it resolved that the Government of Canada should immediately call a conference of all economic classes in Canada, as well as representatives of Provincial Governments, in an effort to arrive at uniform and co-ordinated attacks upon the general problem, and

Be it further resolved that the farm organizations of Canada should give inflation immediate study as constituting the most serious danger to agriculture with a view to making recommendations to the Government with respect to anti-inflation policies.

Delegates to the conference attacked the problem of the wheat producers' declining purchasing power at two other points—the domestic price of wheat and the International Wheat Agreement. Sales of wheat for domestic use are made at the I.W.A. price, thereby constituting the only price ceiling prevailing on any basic commodity in Canada. Since the variation between I.W.A. price and the price for Class 2 wheat, or the "free" market price, sometimes ranges as high as 60 cents per bushel, producers look upon this as a situation which is basically unfair. Strong support was accorded to a resolution requesting that the domestic price of wheat be subject to adjustment in accordance with changes in the domestic economy, as evidenced by the indices of farm production and living costs.

International Wheat Agreement

The meeting, on the second point, endorsed the International Wheat Agreement in principle and recommended its renewal. However, on the question of prices, a resolution recommended that in future agreements provision should be made to adjust prices in relation to farm production and living costs and that present floor and ceiling prices be substantially increased. This was in accordance with

the general feeling expressed at meetings of other farm groups in the West. Thus the finger has been placed on the major weakness of long-term commodity agreements, a weakness generally inherent in any system of prices fixed for long periods of time. While the price of individual products may be fixed, the general price level continues to fluctuate, often with serious effect on the purchasing power of the producer. It is further obvious that stability of price does not result in stability of real income under these circumstances. It would appear that stability can only be attained at a price. The questions involved are, "How much are we prepared to pay for stability?" and "How do we obtain adjustment of price when that limit has been reached, without wrecking the entire plan?"

An annual price review has been suggested, which if acceptable to a majority of members, might offer a solution. There are, however, many difficulties. Would it be possible to get representatives of 46 nations together in order to reach an agreement in time to be effective? It seems doubtful that a majority of nations would agree. In such an event a longer term agreement would have to be settled upon with possibly the same weaknesses which exist in the present Agreement.

It is significant that several more importing countries have become members and that many have considerably increased their quotas. This improved popularity is obviously largely due to the fact that the maximum I.W.A. price is below the open or "free" market price. Broomhall's *Corn Trade News* comments that I.W.A. wheat, at the maximum price, is about the cheapest bread or feed grain in the world. Despite Broomhall's comment and his prediction of failure for the Agreement, western producers have not given up the struggle for a satisfactory arrangement.

While Canadian farmers will argue forcibly for a satisfactory price structure, conditions are somewhat different in the United States. Farmers south of the border are reasonably satisfied with the Agreement, which, because of export subsidies, does not affect their price support program. A considerable number of American farm organizations may also be expected to press for its renewal.

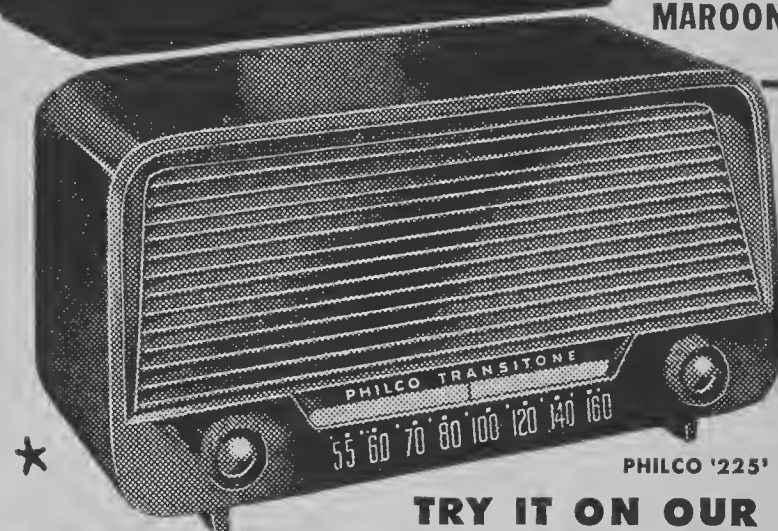
Indications are for strong support of the Agreement by United States government officials, particularly in the Department of Agriculture, in addition to the farm support. Writing in *Foreign Agriculture*, Mr. L. Gastineau, Agricultural Economist with the office of Foreign Agricultural Relations, states: "Full utilization of our agricultural resources, particularly in the Great Plains and the Pacific Northwest, will depend upon the extent to which our position is maintained in the world wheat market." This statement refers to the present export position of the United States.

Canadian producers should therefore have a strong ally insofar as renewal of the Agreement is concerned. They may, however, feel more concern over price adjustments than will their American counterparts.

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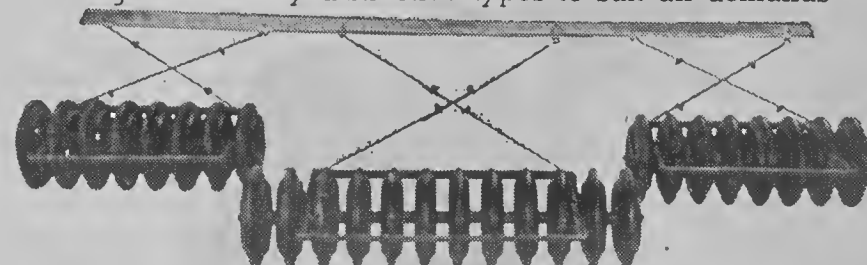
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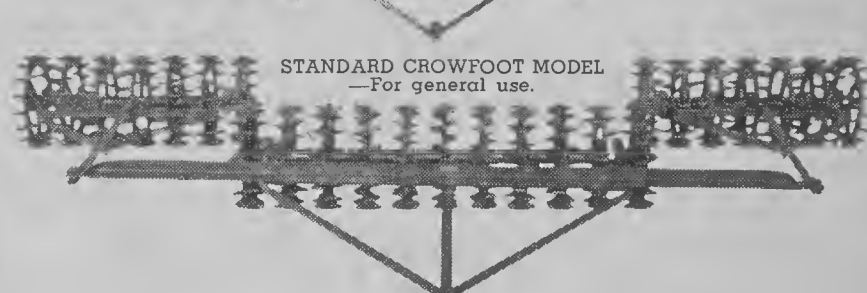
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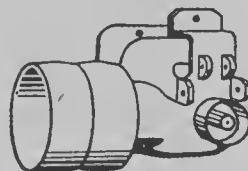
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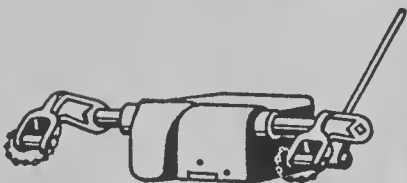
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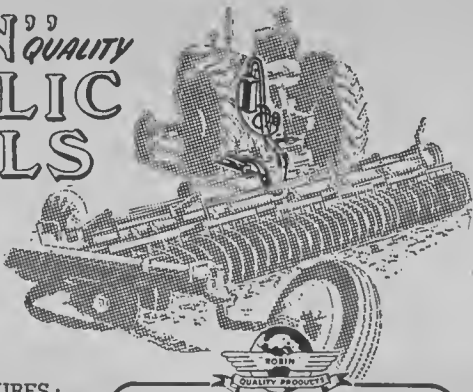
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Cutting Milk Distribution Costs

New processes may revolutionize the dairy industry. Milk can now be kept fresh indefinitely, and bulk can be reduced by two-thirds without changing the flavor

by CHARLES F. COLLISON

SWEET whole milk with nothing added and nothing taken away is being processed for the first time by an entirely different method. Sealed in a vacuum can, it is shipped to Japan, Alaska, or any part of the world. It will keep indefinitely in any climate. Whether you live in Patagonia or at the North Pole, or on some South Sea island, you can enjoy a glass of fresh milk.

It is not condensed, or evaporated, or powdered milk. It is just fresh milk without any preservative or chemical change. It is pasteurized and sterilized; it is homogenized . . . that is, the cream does not rise, but is homogenous with the milk itself.

What this means to the future of the dairy business is anybody's guess. Yet it certainly means a new angle in the distribution of one of the finest foods, which has always been the most difficult to preserve, even with refrigeration.

The secret of it is that deterioration of milk is caused by oxygen. The new process draws it from the cow and puts it through the various processes without exposure to air. It is known as Med-O-Milk, after the first commercial plant licensed by its inventors.

The process was developed by Roy R. Graves, formerly of the U.S. Department of Agriculture, and John H. Stambaugh, farm implement and automobile dealer of Valparaiso, Indiana, using the Stambaugh farm as a laboratory. A milk parlor and pen were built which provide complete control of the raw milk as it comes from the herd, allowing it to be pasteurized and homogenized without exposure to air.

They had hoped to carry the process still further to include the bottling. Much time and money were spent in developing machinery to bottle the milk, before it was found that equipment was already available for sealing cans in a vacuum. This made it necessary to go further than pasteurization, since although this kills all pathogenic types it does not kill all bacteria.

After repeated experiments with cans commonly used for home canning of fruits, the inventors were con-

vinced that they could solve the problem with proper equipment, so they consulted with the research department of the Continental Can Company, who were doing some similar experiments.

The first question asked them was, "How long do you expect your milk to keep? If it is not longer than 60 days, we are not interested." Graves and Stambaugh convinced them that they expected it to keep indefinitely.

With research successfully completed, operations began March 30, 1951. Thus Puget Sound dairymen are supplying customers in Alaska, Japan and other countries remote from any dairy with fresh whole milk, just as it comes from the cow.

All this costs money, so that milk processed by this method has to sell for more. It could hardly be expected to compete in price with ordinary raw milk sold locally, although it is invaluable for shipping long distances.

NOW comes "concentrated milk," made by removing two-thirds of the water; this is expected to revolutionize the whole problem of milk distribution. This is not to be confused with ordinary condensed or evaporated milks already on the market. They have a taste which is objectionable to many users. This is because the water is removed at high temperatures. The new process, however, removes it at 120 to 140 degrees, in a partial vacuum in a tank where water evaporates at a temperature low enough to prevent burning the butterfat. The higher milk-sugar content in the concentrated milk makes it keep sweet longer in the refrigerator. One lot is said to have been kept sweet 26 days.

With the water removed, three truckloads of milk can be carried in one truck to market; the grocer handles one carton instead of three, and saves two-thirds of his refrigerator space. The home refrigerator will hold three times as much milk as before, and the housewife need not carry home two quarts of water in every three quarts of milk.

With 27 billion quarts of fluid milk

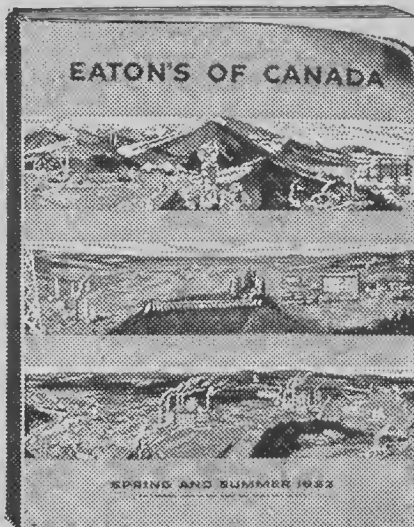


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A new process is responsible for the milk in these three-quart cans staying fresh for months, even when shipped thousands of miles to warm countries.

and cream transported an average of 200 miles last year, one can see even greater economies when concentration plants are provided in big milk production regions.

Years of experimental work were necessary to perfect the process, which involves many intricate problems. Today, many cities and towns are selling it. It comes in cardboard containers, like any other milk, and looks and tastes like cream. Just add two parts of water, and you have fresh, homogenized, pasteurized milk. Use it "as is," and you have fresh cream in your breakfast coffee. In some regions it has displaced cream. It is cheaper and less fattening.

Med-O-Milk made its debut in Wilmington, Delaware, where 200 cus-

tomers tried it and liked it. Last March it appeared in Boston, where three firms sold some to super-markets, which said one-half their customers preferred it. Then it invaded Washington and was sold in the Midwest and on the Pacific Coast.

Price is always a factor in selling milk. Concentrated milk is sold at a saving of about two cents a quart, when bought in quart cartons. Further savings of from two to six cents are expected when the savings in bulk, weight, transportation and space can be passed on to the housewife as the volume of production increases. It will also encourage the buying of milk at super-markets and groceries, which will cut delivery costs to the home.

A Winter Trail

In a day's hunting a weasel metes out and escapes death, and has many adventures

by KERRY WOOD

WALKING the frozen surface of a creek one winter's morning, I saw the twin tracks of a weasel leading from a bank hole. No trail led to the hole, but there had been a snowfall the day before to cover the entry spoor. As weasels hunt at night, I realized the little killer had been denned there during the day and had come out after the storm. The neat tracks beckoned me, inviting me to follow and share the animal's nocturnal adventures.

First, the weasel paused as though to look around, and likely its keen nose tested the breeze. It must have caught some scent-message, for the weasel suddenly loped directly across the white surface of the creek, making a long leap to get up the bank. And I soon realized why the weasel had been so eager to hurry in that direction. A dense willow thicket was there, with the snow crisscrossed with fresh rabbit trails: the lopsided tracks of the varying hare.

Tracks were somewhat confusing here, but I slowly unravelled the spoor and learned that our weasel had gone straight toward a form where a hare had been crouched in slumber. There were dug-in marks of a rabbit's claws, then the wild distance of its first panicked jumps. It had sensed danger's approach and escaped. For a while the weasel darted back and forth through the thicket, but gave up the rabbit hunt to climb the hill.

Among the spruce I lost the trail, because the weasel had climbed a tree. Squirrel tracks were on a nearby mound, where a red squirrel had stored spruce cones for winter food. Close study revealed two different sizes of squirrel tracks near the cache, which might have meant that a nocturnal flying squirrel had been invading the spruce cones when the weasel happened along. The trail led to the same tree as the squirrel's, so for a while the weasel tracks could not be followed. I circled until I found where the weasel had come down from another of the dense-growing spruces and loped off in a new direction. And I could not help hoping the beautiful flying squirrel had got away.

Tracks blurred suddenly as the weasel whirled and made a pounce. But the mouse had not been caught, though the weasel burrowed alongside

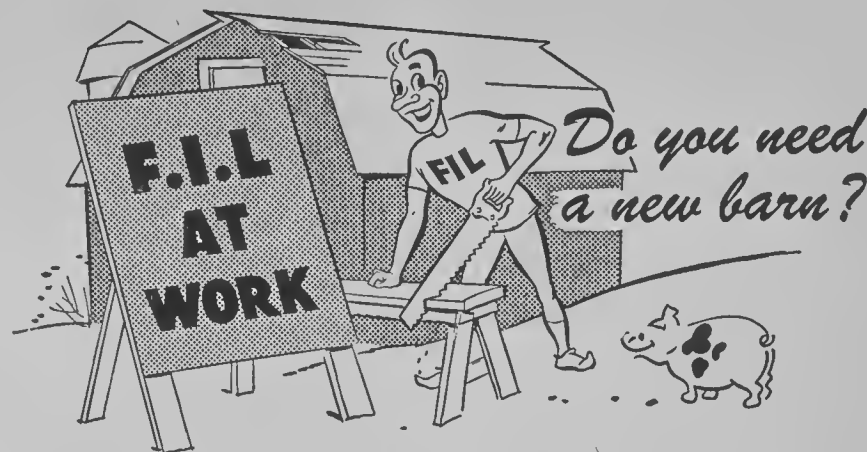
a mossy log for a moment. Then on again, and this time it was the weasel's turn to flee. An owl's wing-feathers brushed the snow's surface on either side of the spoor, with drag-marks of owl talons showing just where the weasel leaped into the screening brushpile.

Adventures came thick and fast. It nearly caught a shrew, but avoided the tiny carnivore when the shrew gave off its obnoxious scent. It explored a hollow log, and just missed stepping on the pan of a steel trap. A red-backed vole was captured near this log, the weasel sucking a few drops of blood and discarding the body.

On again, where the weasel met a porcupine. The killer stayed a respectful distance away, but followed until the animated pin-cushion climbed a tree. After that, the weasel returned to the winding creek, where it investigated every hole in the bank. I could not learn if it made any kills during this tour, but from the short-spacing of the tracks and lack of briskness about them, I had a notion it dined on something. Then it denned up for a while to sleep off the meal. From this second den the tracks loped out eagerly again, the weasel invading a farmer's field nearby.

ANOTHER owl attacked our weasel, without success. The animal loped across the snow-covered stubble to a straw stack and granary. Here it dined richly, because fat meadow-mice were numerous around the stored grain. I counted three bodies, but perhaps the weasel killed many more in underground dens. Raking out the bodies, I saw that each had blood marks near the neck, testifying that the weasel had sucked blood and not eaten any flesh.

After this orgy, the weasel came slowly from under the granary and circled the straw stack. Its tracks were heavy and closely spaced; it was obvious that the animal was not much interested in more hunting. But see: here's where it dug through the snow to the entrance of a gopher hole. Down it went—and who knows what it did to the gopher tenant snoozing in its hibernation room? Anyway, the weasel's trail ends here, for the animal stayed underground to sleep off its mouse-killing spree.



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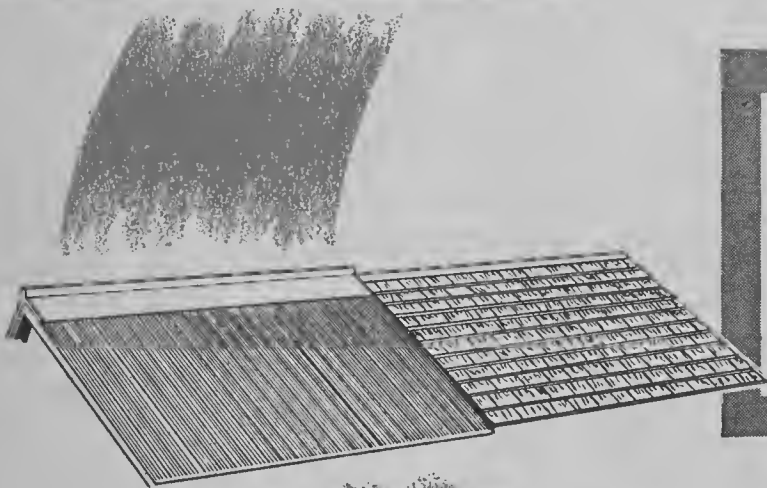


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THE above photograph, taken in 1903—before the era of farmer-owned elevators—shows a group of farmers having hauled about 20,000 bushels of grain in sacks with the intention of themselves shipping it over the platform.

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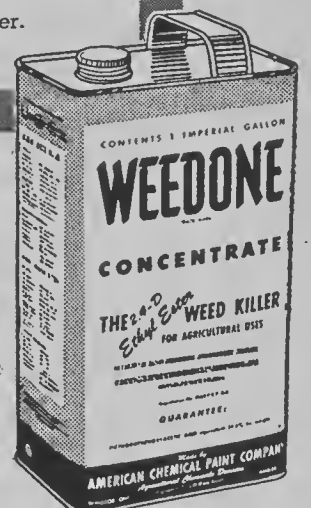
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The Hunters

To the observant naturalist and hunter a late fall walk in the woods is a gripping drama

by JOHN PATRICK GILLESE

THE snow came early to Alberta last fall, as every farmer knows to his sorrow. When I hit northward from Edmonton on October 22, for my annual hunting pilgrimage to the valley of my youth, a good four inches of frozen snow crusted the fields and stooks, and the temperature hovered at a cold zero. It seemed odd to be setting forth to shoot ducks and upland birds against such a bitter background, and the hunting trip, as it turned out, was odd in more ways than one.

Over the years, a strange change has been wrought in the valley, one that I fear might be typical of many regions of the West. Now, by and large, the wildlife population consists more of hunters than hunted. Coyotes abound in incredible numbers, weasels are thick, man has been everywhere. The deer which used to abound in the Paddle Valley are gone, because the school sections and farm pastures, where once they mated and

turkeys and even small pigs—and he was just enjoying the sport. At dusk that evening my brother saw the same coyote playing with the horses in the field. Wildlife has as many personalities as the human world, and undoubtedly this coyote enjoys playing as much as another one will enjoy raiding one particular barnyard year after year.

For several years up there, some neighbors to the north lost their complete turkey and lamb flocks to one wily confirmed raider. In 1950, in desperation, the two got together, one offering a Christmas turkey and the other a yearling lamb to anyone who would shoot the coyote. I walked across a summerfallow field, about 200 yards from the house, trying to get a shot at a prairie chicken perched on a spruce tree in the muskeg. The chicken flew, but out of the muskeg rose a big brown coyote, large as a collie dog and slow with age. There, I discovered, he slept by day; the



Never in all those years had he raided those farm buildings.

raised their young in peace, are gone. Ruthless exploitation of the forests has caused the river to shrink to a bare trickle. Where once of an evening I counted more than a hundred muskrats on a bend of river, I saw not a single sign. Only the beavers, increasing in Alberta, take any interest in maintaining the water level; and they work against increasing odds.

On October 25, it was snowing heavily again. I remember that day because I was treated to more "close-up" shots of wild hunters in action than I have ever seen during a single day outdoors before.

My first rival was a coyote. I saw him as I walked down an old blind-line trail between the hills. The snowstorm undoubtedly kept him from either smelling or sighting me. The rabbits, returning in incredible numbers to the northland, were everywhere. All that I saw were still brown against the stark white background. The coyote was having the time of his life. He'd trot a few feet up the road, then dart down the gully, sending a terrified rabbit streaking for the most tangled scrub it could find. The coyote, I soon saw, was not a bit hungry for rabbit. His destination was the uplands—where his kind have been boldly making off with

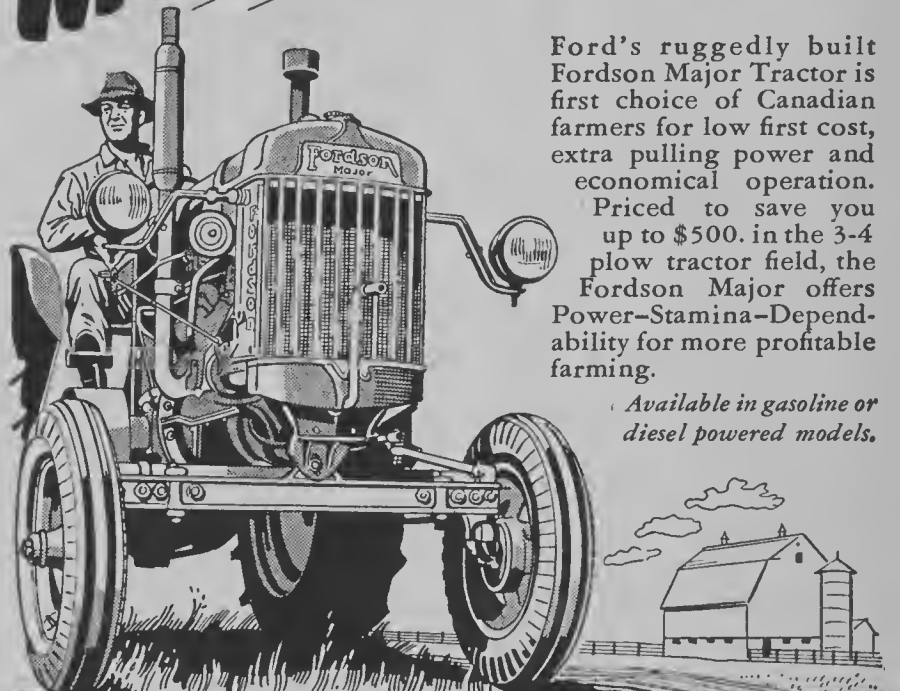
lady of the house said she had seen him often, returning to the muskeg in the early morning. No one, of course, deduced that he simply trotted into that muskeg and went to sleep—everyone assumed he was just passing through. But the moral of this story is (for I shot the coyote) that never in all those years had he raided the farm buildings only a few hundred yards from where he liked to sleep. Coyotes are that smart.

In the thickly falling snow, tracks were either fresh or they were non-existent. The weasels, turning white, were having a field day. One—I judged him to be a two-year-old—had homesteaded under a small granary near a backwash on the flats. I sat down on the runner of the granary for a rest, and he surveyed me with a mixture of curiosity and annoyance. Then he went to work again. A flash, and he was down in the grasses of the backwash. There was a squeak, and he raced up under the granary with a mouse locked sideways in his teeth. I thought he would eat it, but no. Hunting was of prime importance, and how that slender weasel could hunt. In fifteen minutes he had cached four mice under the granary. Then he disappeared, and I thought he had gone on a long journey, as is the

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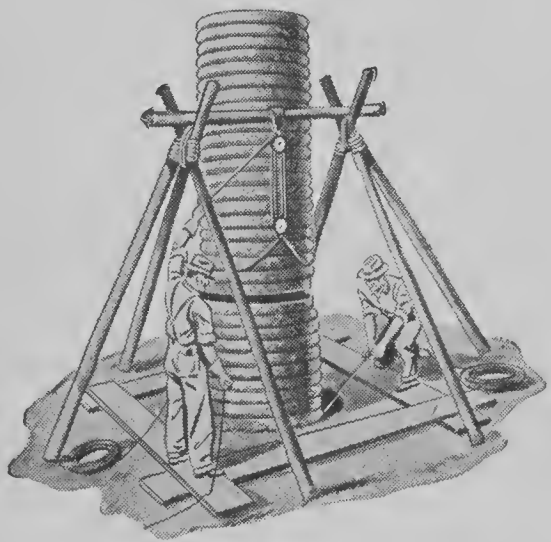
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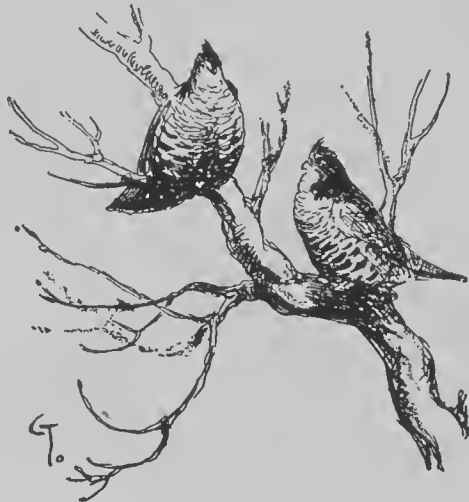
Regina
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Saskatoon
Vancouver

favorite habit of weasels. But when I looked back, he was returning in triumph again, seemingly more surprised than ever to see me disappearing toward the brush.

Grouse were hard to find that day. In other years I have taken my share from the river banks, from the spruce copses, from the thorny clumps of red-berried rose briars along the roadsides. Today I rose not a single grouse, not a single Hungarian partridge—not until I was trying painfully to crawl through the most tangled jungle of old dead willows that I was sure would hold no attraction for any wildlife.

Then, suddenly about eight ruffed grouse bulleted out from the one willow above me. They had waited until I'm sure I could have touched them and finally fright stampeded them. I soon saw the reason for such unusual goings-on.



As one grouse hurtled across the river, the air above me sang as if a jet plane was approaching. I looked up to see a falcon hurtling with a speed and precision no other bird can equal, after the scared grouse. The grouse almost gained the thicket, but in less time than it takes to read this, the falcon struck, making a half-twist in the air, and his knuckled talons pierced the life from the grouse.

I have never seen falcons in the Paddle Valley before, but that day I saw my share—five of them! Perhaps they are members of the same family, but certainly they have struck terror into the valley. Three times that day I saw grouse struck down, and feathers elsewhere told their own story. On the return journey home, I saw eight mallard drakes hurtling westward, their wings singing, and—you guessed it—a quarter of a mile away, a falcon after them.

This was a drama to behold. The mallard drake is the fastest, strongest

flyer in the waterfowl world. Yet against a falcon they have no chance. In less than a hundred yards after I saw them, the falcon had cut down the quarter-mile lead and was on them. He singled out one drake, and that drake was sure his hour had come. In panic, the mallard dropped, wheeled and plummeted down on a small patch of open water. The falcon missed it by inches, then wheeled and streaked after the other mallards disappearing into the west.

As a hunter, I'm rapidly becoming a conservationist. I hated to shoot that mallard after his narrow escape, but my family likes duck meat. When I picked him up, his mouth and crop were full of wheat. The falcon, obviously, had raised the feeding mallards and so swift was the chase that the drakes never even had time to swallow their dinner.

An hour later I saw a falcon, perched like a black stub on a dead limb, waiting for a grouse to move. (It appears to me that falcons will neither risk an attack on a tiny body of water, nor in the dense bush; probably they are afraid of damaging their wings on the ice or the brush.) Again I was torn between two emotions. But because I had my bag of grouse, I drew bead on the falcon and fired.

It seems a shame to destroy a bird so proud, so streamlined and strong. But if we hunt the game birds, must we not hunt their enemies also?

This was the first falcon I ever shot. His individual wingspread was 18 inches from body to tip. His tail feathers were 12 inches long, and there were 12 in the tail. His four great talons, black and curved, were better than an inch long; they close together, the under-one meeting the three over-talons, like a miniature grappling hook. His beak was the stubby black beak of all the hawk family; snail-colored toward the mouth, green above the nostrils. The keen eyes were pollen yellow with a perfectly round pupil. The head is flat and short black whiskers guard the eyes. In color, my falcon resembled a ruffed grouse; his back feathers dark and barred; his underside lighter and pencilled. Underneath the brown-barred feathers is a fluffy white down, soft and thick as a mallard's. The tail feathers are barred also, like a turkey's, about an inch between the lighter and darker bars. The body is incredibly light for a bird of such size.

Ironically enough, while a falcon was instrumental in my getting a beautiful green-head, the one I shot hadn't a thing in his stomach!

A Very Unusual Dairy Farm

AT Whyalla in south Australia, where the red soil is not very fertile and the rainfall is under ten inches per annum, milk has to be supplied for a population of 8,000 in the town. As a result, a single farm, irrigated from the river 223 miles away, was established on an 8,000-acre tract within a mile or two of the town, and pasture improvement began in 1944. Eighty-five acres were planted to Lucerne (alfalfa), which has now been converted to a permanent pasture. The venture is entirely dependent on the development of Lucerne and pastures. Irrigation is by the sprinkler method, and the yield of Lucerne is nearly ten tons per acre after the first year. It is cut and fed as green feed

or hay, rather than pastured, and stored by every known labor-saving device. Grass is provided for grazing after milking. The milk production is at the rate of 450 gallons per acre per annum for the 180 acres of improved pasture, which is now supporting 230 head.

A flyproof milking shed, a nine-unit milking machine, herd-testing, and completely sanitary milk-handling methods, which avoid all contact of the milk with the atmosphere, enable the work in the dairy to be done by nine men. Cows entering the dairy pass through a flyproof tunnel, where the flies are blown off the cows by a 15-mile-per-hour forced draft.

This Progressive Farmer Says: "FIRESTONE OPEN CENTERS FOR ME"

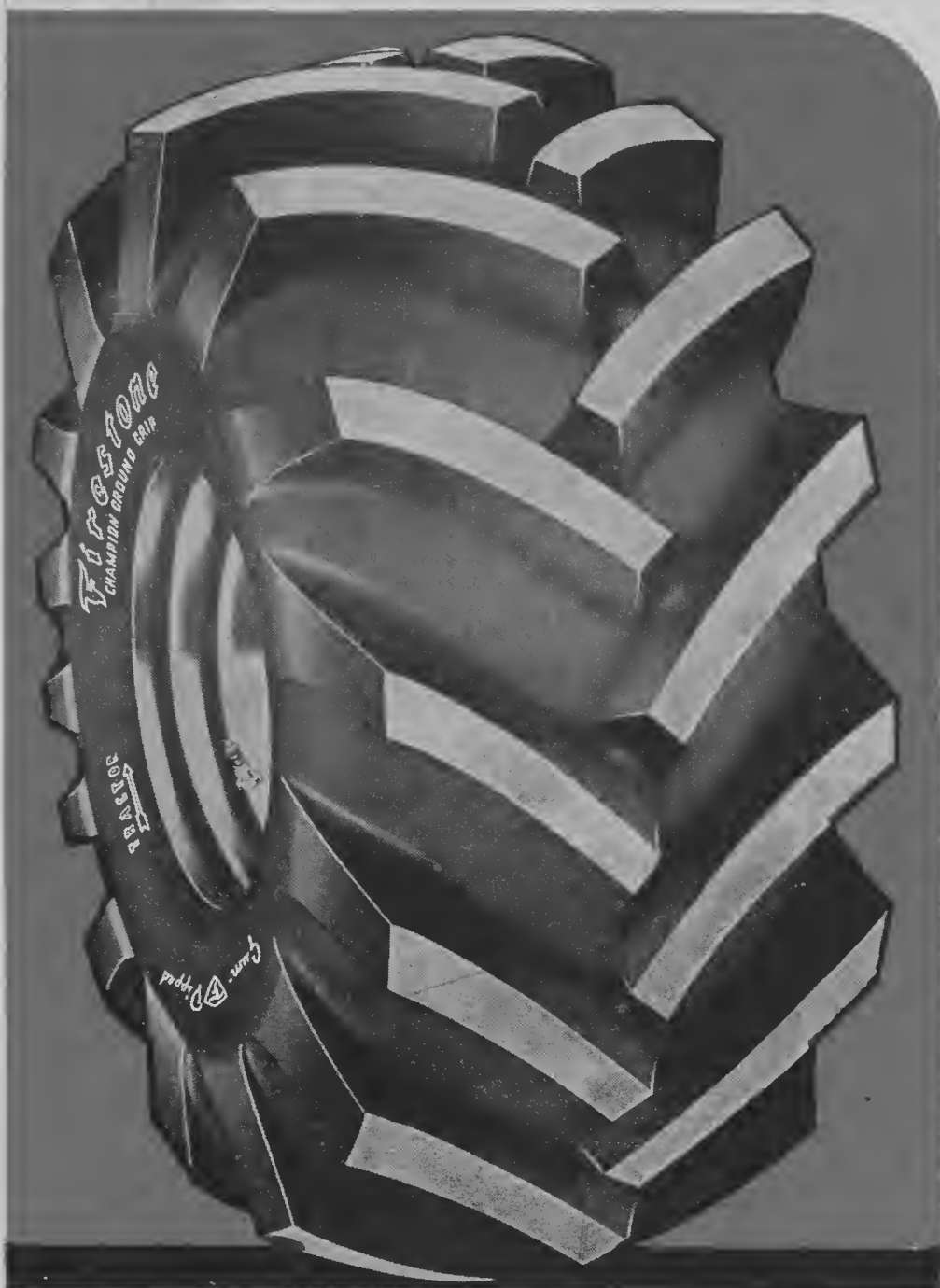
"I farm 320 acres of bottom land. Sometimes it gets pretty dry and hard, and other times it gets soft and sticky. I like the Firestone Open Centers for my farm because, no matter what condition the ground's in, I can always depend on them to do a good job. In my opinion they're the best all-around tires a farmer can use."

GLENN STAUFFER.



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A GREAT white pelican, wounded and unable to fly, walking painfully southward on the ice of Lake Newell—one of nature's most magnificent fliers answering the compelling call of migration.

Sven Bayer, a rancher who lives beside the 11-mile long Alberta lake, was the only witness to this drama.

Long an admirer of the mighty birds which annually congregate on the lake, Bayer has spent much time studying the habits of the pouch-billed giants. He knew they were among our most colorful species, but it took the episode of December to convince him that the pelican is tops in the matter of courage.

Very late in the migration season, after the lake had almost completely frozen over, Sven noticed a lone pelican, periodically visible through swirl-

Call of the South

The compulsion of the migration instinct is revealed in strange ways

ing snow, walking slowly southward on the ice. Closer observation led to the conclusion that the bird, wounded by gunfire, was unable to fly.

Always averse to disturbing the big birds, Bayer forgot about it—until two days later when he spotted the bird, still forging to the south, near the south end of the lake. Again he left it alone, but became fearful later when the thought struck him that coyotes might "get" the grounded giant.

Driving around the lake, he failed to see the pelican. But after a short zig-zag tour of the prairie to the south of the lake, Bayer caught up with the big white gamester, still heading south as though on compass, but obviously

very weak and making slow progress.

Picking up the bird, too tired to protest, the rancher took it home and worked feverishly over it in an attempt to aid recuperation. The toll, however, had been too great. The gallant bird died next day.

* * *

Believe it or not, ducks do favor hitch-hiking as a means of migrating in the late fall. Their highway is a river and transportation is supplied by cakes of floating ice.

Proof of this came late in 1951 when Fred Sharp, Ducks Unlimited southern Alberta project supervisor, stopped beside the Bow River to watch "great pancakes of frazzle ice grind-

ing their way downstream." As he describes the scene, "some cakes seemed to be almost solid black, while others appeared rimmed with black."

Curiosity changed to amazement as he realized that the black represented mallards by the hundreds, obviously hitch-hiking south on the ice cakes. A close-up look through glasses revealed indubitably that the birds were not in trouble, but thoroughly enjoying their leisurely sail.

Sharp stayed riverside for another half-hour, during which period the ice continued to come, many cakes loaded with sightseeing waterfowl. The birds seemed completely unconcerned about the car drawn up alongside the bank, and, as the observer said later, "They were so obviously in a gay mood that I half expected some of them to ask 'Would you care to joins us?'"

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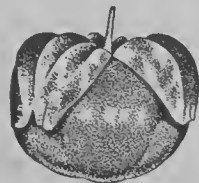
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Hillard C. Lyle Managing Director

Beef with less work

Continued from page 8

witnesses to the merit of the system. It depends, of course, on high quality feed.

The winter stabling management is also designed to cut down on work. The only stock that are stabled are the spring calves, the bull, two milk cows and a team. Murta has levelled an area near the base of a large hill—an area well surrounded with trees—and here the rest of the cattle spend the winter. There is no shelter from the elements except that afforded by the hill and the trees. The area is ordinarily bedded once a week, but given additional covering if it snows. It is cleaned in the spring with a hydraulic manure fork.

The feed troughs are in a sheltered spot near to the bedded area. The cattle are given a feed of grass silage in the morning and chopped brome-alfalfa mixture in the afternoon.

The calves run in what used to be the horse stable. The stalls have all been torn out and the barn is now a large, loose box. Two years ago Murta cleaned it out every day, and it used to take him an hour. He resented giving the calves that much time so he sat down to try and figure out some way around this amount of work.

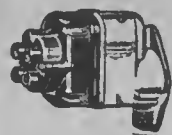
HE came up with an idea that reduced the frequency of cleaning from once a day to once a year. The first thing he did was to hang the feed troughs on chains from a rod in the ceiling. This meant that if he wished to raise the troughs he only had to turn the rod which would wind up the chains and the trough would come up. His next step was to saw through the two-by-fours at the sill and plate at one end of the barn and hinge the end of the barn.

What he had in mind is obvious. With this arrangement he could run the calves in in the fall, bed the pen as it required it, raise the feed troughs as the manure pack got deeper, and in the spring lift the hinged end of the barn and come in with a hydraulic fork on his tractor and clean out the manure. Last spring he and one man cleaned the barn in nine hours—18 man-hours of work—after 26 head had been in the pen for 175 days. Using the pitchfork and stoneboat system and cleaning every day, manure hauling would have taken 175 hours during the winter; the new system saved all but 18 of these man-hours—or nearly 20 eight-hour days!

The feeding is also geared for speed. An overhead track runs through the center of the barn, a door can be opened at the end and a "bucket" dragged along the track; a trapdoor is opened in the ceiling above and chopped alfalfa and brome mix is pushed into the bucket and forked across into the mangers. The whole operation takes only a few minutes. In the morning silage is hauled in with a stoneboat with built-up sides.

The rest of the farm is geared to high speed production. Last year only 200 acres of grain were grown—70 acres of flax, 45 acres of sunflower (for seed to sell for crushing) and the rest oats and barley. With the exception of 45 acres of corn for silage, the remainder of the 610 broken acres were in a mixture of alfalfa and brome, to be used for pasture and winter feed.

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The Royal Bank of Canada

*Industrial Development and Freer Trade
can be Achieved Together says President*

**Suggests long range programme to speed process
and bring prices closer to U.S. levels. Sees
danger in large budget surplus . . .**

Need for a free and flexible economy to meet the challenge of inflation and foster the long range development of Canada, was the keynote of the annual address of James Muir, President, at the Annual General Meeting of Shareholders of The Royal Bank of Canada. Inflation, he said, was still a major problem, and he doubted the effectiveness of high taxes as a curb on either private or corporate spending. Nor did he consider the unexpected budget surplus of \$635,000,000 a reason for complacency.

"By itself this unplanned surplus is neither an effective check to inflation nor a reason for complacency and self-congratulation," said Mr. Muir. "The danger here is that the Government with its increased surplus and the public with its increased savings are better able than ever to increase expenditure in the future. I do not think we need worry too much about the private individual dissipating his savings and so adding to the inflationary pressure. Unfortunately, experience does not point in quite the same direction regarding the Government's surplus. This surplus, induced as it is by increased taxes, perhaps designed to check inflation, actually becomes an inflationary time bomb unless it is rendered inert by impounding it as a deposit in the Central Bank or by using it to retire Government debt held by the Central Bank.

"Economic development means anything but a quiet life for workers, businessmen, and government officials. The need for adjustment would not be so great in the long run if we were content (which we must not be) to continue as a producer of primary products for final manufacture elsewhere. Whatever one may think of protection as a means to economic development, it is true that our position next to the United States makes a high tariff both a cause for discontent and a temptation to break the law. The alternative, competition with U.S. industries enjoying the low costs of a large mass market, might seem at first glance to rule out a diversified industrial economy for Canada.

"At this point I wish to make it clear that in the remarks I am about to make I take no position in the political controversy so long associated with our tariff policy. What I shall try to do is to discuss the economic problems involved.

"There is little doubt in my mind that Canada can achieve both industrial development and freer trade. Our problem is to hasten the process. Our first step should be a long-run programme to reduce or abolish excises and sales taxes at the manufacturer's level.

"Our second step should be another long-run programme to get reciprocal concessions in trade, particularly from our nearest neighbor, the United States. Our farm machinery industry now has the advantage of free access to the U.S. market and the U.S. industry likewise has free access to our market. Canada must have other industries that could benefit greatly by a further extension of this principle of 'limited free trade.' In addition, other mutual concessions of a less spectacular nature could contribute a

great deal in total to increase the long-run health and prosperity of Canadian industry.

"Moreover, both steps in the suggested programme would reduce the present disparity between prices on a wide variety of articles to the consumer in Canada and to the consumer in the United States."

TAX POLICY

The increase in federal excises and sales taxes is unpleasant, but these taxes do hit the spender where it hurts. Unfortunately he does not know what is hitting him. Why? Because the taxes are levied at the manufacturing level, passed on plus mark-up at various points from there on, and finally concealed in the retail price. The system is, therefore, inefficient: for it takes out of the consumer's pocket much more than it yields to the Government in revenue. But, worse still, the purchaser sees the whole increase in price not as a tax, but as a rise in the cost of living and a reason for demanding higher wages for his work or a higher price for his product.

A further aggravation is that provincial and municipal sales taxes, levied on the retail price, obviously become in part a tax on taxes. This is bad in principle, and, as we have seen, it lacks even the virtue of expediency: in the fight on inflation the federal tax is ineffective because concealed. It is unfortunate that in 1951 this slap at spending had to be administered with an anaesthetic.

2,100,000 DEPOSITORS

T. H. Atkinson, General Manager, in reviewing the bank's 1951 report stated that total assets of The Royal Bank of Canada has now reached the imposing total of \$2,515,645,208. This, he said, was a new high mark in Canadian banking history and a figure which would undoubtedly be noted throughout the financial world.

Deposits likewise had reached record totals. "Apart from government balances which, as previously mentioned, are lower by some \$46,000,000, interest-bearing deposits have increased \$19,805,000 to \$1,123,723,000 and non-interest bearing deposits are up \$39,694,000 and now stand at \$1,085,717,000. The balances in both categories constitute new records. We are particularly pleased that the number of deposit accounts on the books of the bank increased over 100,000 during the year and now exceed 2,100,000."

PRAISE FOR STAFF

"It is always a pleasure to conclude my remarks to you with an enthusiastic tribute to the members of our staff. The success of any company or institution must of necessity bear a direct relation to the degree of efficiency of its personnel but this is particularly true of a bank where the things we sell are service and friendliness. The friendly approach is traditional with our staff and service beyond the call of duty is the rule rather than the exception. Whatever may be in store in the year just beginning, I am confident the staff will meet the situation with efficiency, loyalty and enthusiasm."

**M-M-M!
ANOTHER
RIVAL!
THAT '20'!**

See page 46



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About 200 acres of grass are harvested for hay and silage every year. The grass is cut with a mower, chopped with a very large capacity forage harvester, and hauled to the barnyard.

If hay is being made the grass is cut, and raked soon after with a side delivery rake. It is allowed to dry to the point where it will rake readily but the leaves will not come off. After it has dried in the windrow the forage harvester is run down the windrow, the hay is chopped into one-inch lengths and is blown into a rack hauled behind the harvester. The chopped hay is hauled home and blown into the loft of the barn, or blown into a stack in the barnyard. The hay is hauled from one to one and a half miles, yet using this system two men are able to take off from 25 to 30 tons of hay in an ordinary day.

The silage is the feed about which Murta will wax eloquent with a minimum of encouragement. He has dug a trench silo into a sloping bank near the barn. The silo is about 50 feet long, 20 feet wide at the top, sloping

will keep for many years, so is a good means of building up feed reserves.

Murta has found that one or two things are important in making hay silage, and anyone intending to do it should keep them in mind. In the first place the amount of moisture in the feed is very important. When it is cut the alfalfa should be from two-thirds to entirely in bloom. If it is too dry the silage will mold, and if it is too wet it will go sour. The desired percentage of moisture is about 70 per cent. A good rough test is the so-called "grab test," which consists of taking a handful of the chopped feed and squeezing it in the hand; if moisture drips and it stays in a tight ball when the hand pressure is released it is too wet; if it springs apart when the hand is opened, it is too dry; if it slowly breaks apart it is about right.

Murta does not line his silo. The silage goes right against the earth walls. He seals it with about six inches of well-packed, chopped oat straw. After completing the filling of the silo he packs it down by driving a team



Feed bunks for the cattle outdoors. The structure on the right is no longer used, has been allowed to fall into disrepair and will be demolished.

down to 15 feet wide at the bottom. It is nine feet deep. This trench will hold 200 tons of silage.

THE harvesting for hay silage is a really high speed operation. One man operates an outfit consisting of a tractor with a seven-foot front-mounted mower with a windrower attachment, followed by the forage harvester which, in turn, is followed by a hay-rack. In one operation the standing mixture of brome and alfalfa is converted into one-inch chopped feed.

A second tractor is used to shuttle racks between the field and the trench silo. The tractor and rack are hauled right into the silo; a hoist on the back of the tractor then lifts the front of the rack, the back of the rack is opened like a pair of folding doors, another tractor is hooked to the slings that go under the load and the load is hauled off. The front of the rack is then lowered, the back of the rack swung back into place, a couple of two-by-fours dropped across slots to hold it rigid, and the tractor and rack heads back to the field. The third tractor and operator level the grass in the silo and drive up and down to pack it until the next rackload of feed arrives. Three men on tractors and a fourth to help where needed, can put up 100 tons of feed in a ten-hour day using this system. Incidentally, Murta feels that it makes first class feed—he would not attempt to raise cattle without it—and he does not have to worry much about feed spoilage due to rain. Silage

of horses up and down it every day for a week.

In another silo he has 100 tons of corn silage. The corn for this came from 33 acres; he pastured 12 acres of corn.

The straw is brought into the barnyard in the fall. Last fall he drew together two rows of combine straw in the field with a side delivery rake, chopped it with the forage harvester, and blew it into a great stack between two barns. He has built a roof over it to reduce spoilage, and it is readily to hand on cold winter days.

IF a job takes time Murta searches for a means of simplifying it; there are two or three of the operations on the farm that are time consuming, and use, in Murta's view, a disproportionate part of the few hours a day he spends on the cattle. He is seeking means of reducing their demands.

He is not too happy about teaming the chopped hay to the cattle in the outdoor feed troughs. This summer he is going to put his hay up in a series of "ring" stacks and put "gates" around them and let the cattle get their feed right out of the stack.

To elaborate a little; a "ring" stack is simply a circular stack. The technique in building them is to get 50 feet of snow fence, fasten it into a circle, and blow the hay inside it. When it is full the snow fence is lifted about three-quarters of its height by sheer manpower, and then it is filled again. This is continued until the stack

is about 15 feet high, and it is then topped off. Such a stack holds approximately 20 tons of feed.

The so-called "gates" are made of two-by-sixes and are about five feet high and six feet long. They are placed entirely around the base of the stack and are hooked together. The cattle can feed through them, and the hay will work down so that they can always reach enough feed. As the stack grows smaller gates are removed and the circle reduced in size until the stack is cleaned up. When this happens you move on to the next stack.

Murta has never tried this system. However, he has seen it used in Wisconsin, which he visited a year and a half ago, and livestock producers in that area swear by it. Murta is convinced it will work, and will further reduce labor.

Next winter Murta does not intend to dig the silage out with a pitchfork, either. He is going to put his feed bunks on runners, and have them near to the trench silos. He will leave a tractor, complete with hydraulic fork, at the opened end of his silo and will use this machine to dig out the silage. He is fortunate in having the hydro, and feels that if he has an electrical heater in the block of the tractor he should not have too much trouble in getting it started, even on mornings when the thermometer dips to 30 and 40 below.

MURTA does not consider himself in any way an unusual livestock man. If something takes a lot of work he tries to figure out a way to make it easier. He feels that it is too easy to start using one method of raising livestock and then stay with it just because it is what you are used to, when a little real planning would reveal a system that is very much better. Good management has made it possible for him to raise a lot of cattle and still not have a hard winter. He has done nothing on his farm that any other farmer could not do just as well. The only advantage of his location that is unusual is the fact that he has a river past the buildings and is spared the necessity of pumping water. Also, of course, he is in an area where forage crops will grow well.

He does not have a rich soil to produce great yields of feed though. The soil on this farm is a light loam, that erodes very readily. Needless to say, there is no erosion now. The grass and the constant applications of manure take care of this.

Murta is going to alter his production to 100 breeding cows, and sell his calves in the fall, probably in early November. He is not afraid at all that he will be unable to handle 100 head of mature cattle alone. Using ring stacks and gates so that the cattle haul their own hay, using a hydraulic fork to handle his silage, and doing almost no barn cleaning during the winter, he does not see any limit to the number of cattle that one man can handle. He refuses to believe that he will even have to do half a day's work every day to minister to the winter needs of 100 cows.

It is a common argument that the livestock industry in western Canada is not sufficiently mechanized; that raising cattle is too much work, and that livestock cannot compete with highly mechanized cereal crop production. Murta doesn't believe it; if you spent half a day on his farm you wouldn't believe it either.

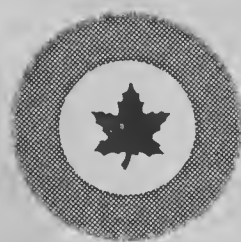


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A Wedding

Continued from page 13

right. They don't care about the mud."

The two black mares didn't seem to care in the least about the mud. Steve felt very happy, driving along on Monday morning, even though the roads were terrible and the going was slow. The air was fresh and smelled of spring and the poplars were turning from grey to green and were full of buds. You could see them clearly against the blue-grey sky.

It would be grand to see Jim again, and Sally—gay, pretty Sally who, Steve knew, loved them all. She must love us, he thought. She wouldn't send so much of her pay home each month for things for Mom, and write every week and never forget our birthdays, if she didn't care for us. I bet she's just crazy to get home . . .

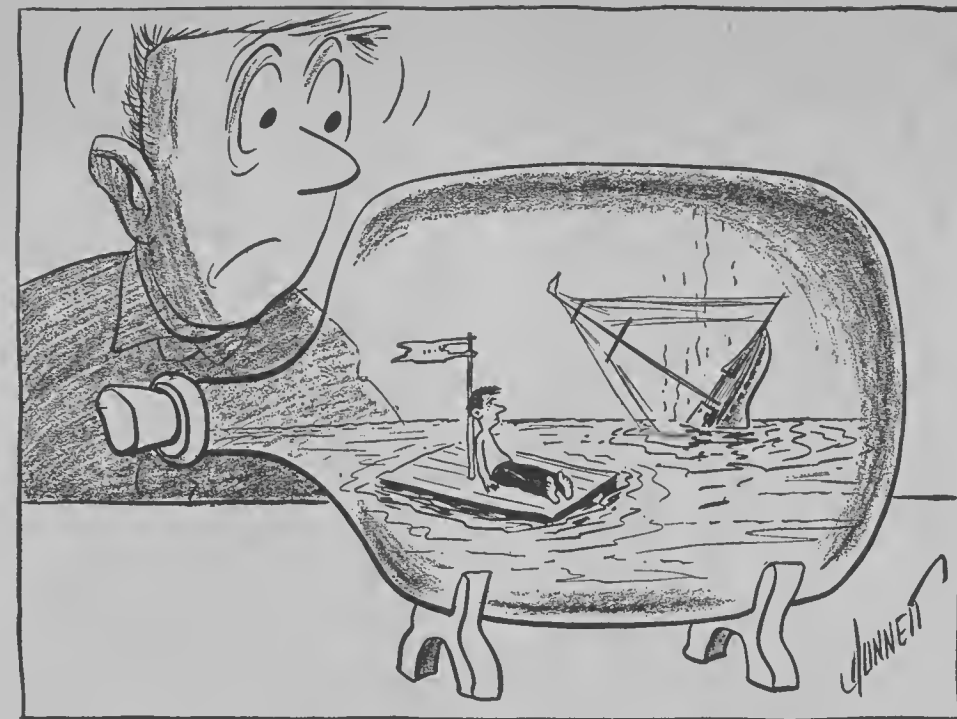
His thoughts were interrupted by a mighty jerk as the democrat suddenly dropped and the mares simultaneously wallowed in deep water that was up to the bottom boards of the light rig.

"Boy! Is that ever deep!" sighed Steve, as the mares struggled up onto dry land again.

"Road washed out, I guess," said his father, and then it seemed only minutes, and there was the riverside ahead of them, and Sally and Jim waiting for them.

Steve thought Sally looked beautiful in a grey suit and a little grey hat. Her blue eyes were shining, and her cheeks were pink with happiness.

His father jumped down. Sally put her arms around his neck as he reached into the pocket of his old



brown leather jacket for his handkerchief, and wiped his eyes hastily.

Steve sniffed. He had a cold too, he guessed. He jumped from the democrat, and Jim grabbed his hand. Then Sally kissed him. She was sweet, thought Steve, and she smelt like the spring.

He took the horses down to the river to drink, and then fed them.

"Boy, this is good," Jim looked around and sniffed, and his hazel eyes sparkled. "HMMMMMM! Smell the good old country smell, Sally. Fresh air, eh!"

"And lots of water," said Sally. "You know, Daddy, we really shouldn't have done this. It's a dreadful lot of trouble for you . . . and work and worry!"

But she was glad and happy, Steve knew. He could tell by the way her blue eyes were shining, and the way her voice trembled.

"Your mother wants it, Sally, that's enough for us," Sally's father said. "I haven't given your mother all she wanted, by a long shot, but this is something she can have, isn't it? You getting married at home?"

Sally's eyes were soft. "Yes," she whispered. "Yes, Dad."

But Steve knew, just as positively as though Sally had told him, that she was worried about how things would look and be at home.

They climbed into the democrat, and Steve hitched up the horses, and back they went toward home. They got through the hole at Carlton's

Corner without too much trouble. Jim held Sally on his knees, and Dad stood up at the back keeping hold of the suitcases and the box of flowers that Jim had brought, ready to lift them out of the water if it came into the rig.

The two mares struggled, and Steve held his breath, but finally they were through, and his tense grip relaxed on the lines. It was really dark now until the moon rose. Sally and Jim began to sing, and soon Steve's Dad joined in. Steve thought what a nice voice his father had, and how happy he seemed. He tried to sing, too. His voice cracked and squeaked and he thought that Jim would laugh, but he didn't, just sang right along.


He's tops, thought Steve warmly, tops, and so is Sally.

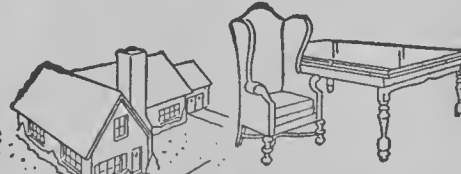
It didn't seem any time before they turned in at the gate of the Denton place. Steve saw that Jenny must have a light in every room. Light shone out into the moonlit yard and onto the two big poplars that stood like guardians of the small house.

Sally was like a bird as she flew down from the rig and into the house. Steve and Jim unhitched and Jim said, "Steve, I wouldn't mind if I had a place like this myself. It's sure nice out here."

"You should see it in the summer," said Steve, "when the wheat is growing and the clover is pink, shining in the sun. But we don't farm right. It should be better than it is. We don't seem to make much money. I guess . . . maybe when I grow up a bit and can help more . . ."


Jim gave him a hearty whack on the shoulders. "You're all right, Steve.





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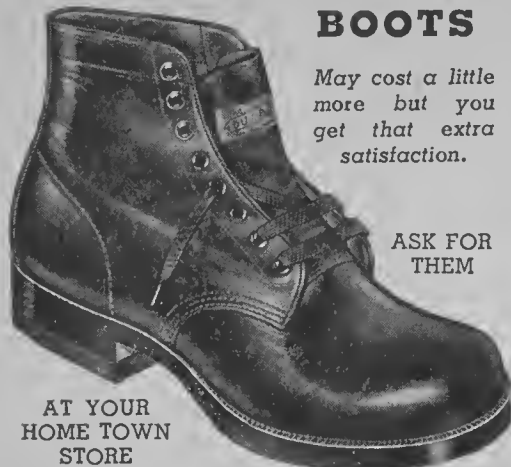
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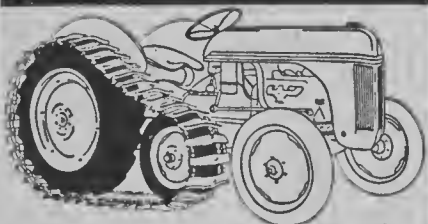
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You're okay," he said, and Steve felt fine.

But he didn't feel fine a little later on. They had finished supper and Jim was turning the cream separator while Steve waited to take the skim milk to the pigs.

EVERYTHING had turned out simply grand. Steve, watching Sally's pretty face, had noticed with delight how her blue eyes had shone when she saw the pretty new paper in the living room, the new blue curtains and the lovely trailing plants that Jenny had borrowed from neighbors. The plants had been arranged into a kind of green altar where the preacher could stand, and made the room look lovely.

Sally had exclaimed with gratifying surprise and pleasure at the renovated kitchen. She was all dressed up in a frilly pink apron, helping Jenny clear the supper table, and singing like a bird, when in came Dick Reed from the store.

Steve felt instinctively that Dick Reed brought trouble. Dick stood there, in the doorway, looking at them all, laughing and joking, and his glance slid to the open door of the bedroom where Steve's mother lay, listening to them.

"What's wrong, Dick?" said Dad, cheerfully. "Come in and brighten up, man."

"I'm afraid I've got bad news for you," said Dick. "There's a telephone message for you folks."

A tight band seemed to fasten itself around Steve's chest. He heard the separator whiz and whine to a stop. Jim turned to Dick. "What's the bad news?" he said quietly.



Dick's honest eyes looked troubled. "The preacher can't get through," he said. "He sent word that the hole at Carlton's Corner is worse. They told him at the river that nobody could come through west."

Sally sat down heavily in the old brown rocker, and Steve saw with a sense of foreboding that her face was pinched and strained. "Oh, dear," she said, as her worried blue gaze met Jim's. "Oh, dear! Why did we ever come home?"

Steve could hear the bedsprings creak in the little room off the kitchen. He moved quietly to the doorway. He saw his mother lie down and pull the covers over her shoulders as if she were cold.

His father sat down in the leather chair by the stove and stared in front of him, and Jim looked from one to another, his hazel eyes blank.

"We have only a week's holiday," said Sally, bleakly. "What can we do? If the minister can't get here, we can't get to the train, either. We'll have to stay until that horrid river is back into its banks. And we can't be married until we get back to town."

She stood, looking blankly out of the window at the dark fields. Steve

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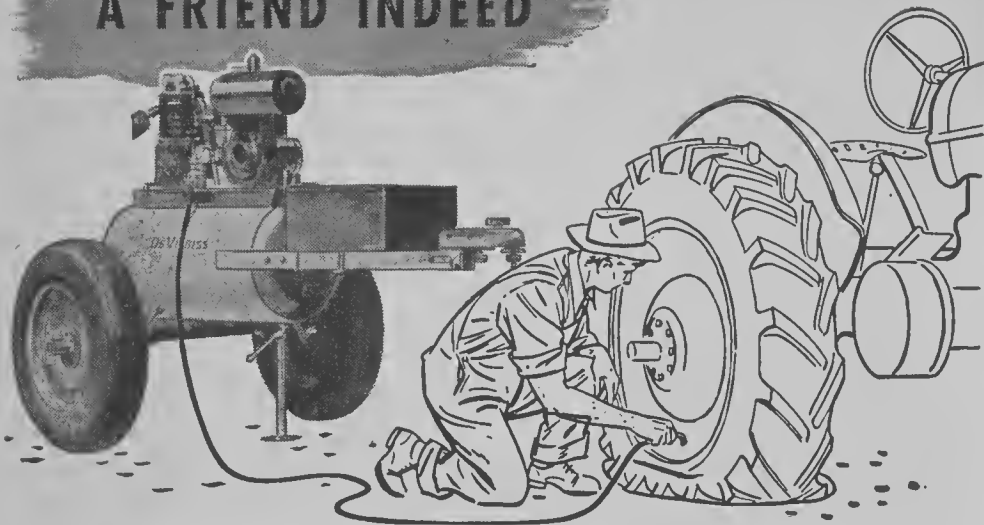
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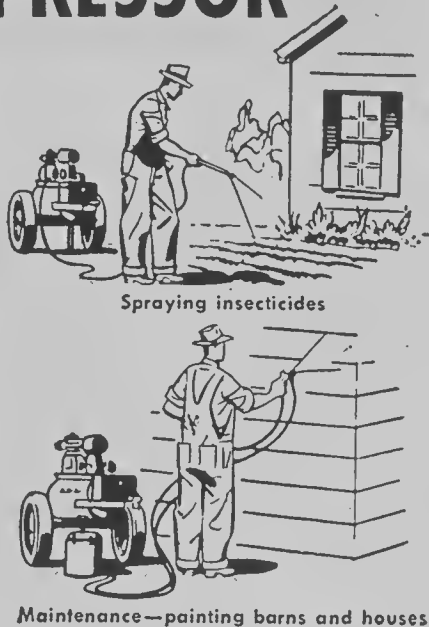
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felt so sorry for her that his throat ached. He saw Jim look at her, his eyes full of love and longing, and he heard Dad sigh.

Steve grabbed his old blue windbreaker and slipped out to the barn. He sat down on the edge of the feed box, his eyes narrowed, his freckled forehead corrugated with a frown of concentration.

He had to do something. It was up to him. Nobody else seemed to have any ideas. But what could he do? He stared around the barn, where moonlight filtered through the small windows. Then suddenly a solution dawned on him. He felt his anxiety and unhappiness fade away. He led old Dolly out of the barn, and jumped onto her broad back, and away they went, down the road toward the store.

At the store, Steve put in a telephone call to the Reverend Dixon at Lynwood, and asked him if he would come as far as the river. If he would, Steve said, he would drive in, bring the minister out to the Denton farm, and take him back again to the river.

Mr. Dixon, who lived seven miles north of the Perdera bridge, where the boats were crossing, said that he

They had a good time getting to the river. It was a miserable day, raining and drizzling, with now and then the pale, watery gleams of sunshine just tantalizing them with a promise of a fine day, but Jim told Steve so many exciting stories on the way that time passed quickly, and they were at Carlton's Corner before they knew it.

They went through the stretch of water without mishap, but it was considerably deeper and the water rushed over the floorboards of the democrat. But they made it, and Steve was immeasurably relieved when they reached dry land.

When they got to the river's edge, there was no sign of the preacher. "He may be late," said Jim. "Let's have a bite to eat. He should be along soon." Steve unhitched the horses, let them drink, then gave them their hay and oats.

Jim looked anxiously at his watch. "I hope he won't be long, Steve. Sally will be having fits if we're late. You know what women are."

Steve figured if he didn't know, he was learning fast, but there was nothing they could do. There still was no



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could be at the river at nine o'clock the next morning, but he doubted if Steve could make it through the bad hole at Carlton's Corner.

With a definite surety, Steve promised that he could do so. If his heart failed him, ever so little, he staunchly told himself that it was something that had to be done and that he could do it.

Then, elation in his whole bearing, Steve rode back home and told the folks what he had done. Talk about the sun shining through clouds! he thought, there was just as much difference in the atmosphere of the kitchen.

His father, however, shook his head. He didn't believe that Steve could make the trip. Ten miles to the river, ten miles back, and then the same trip to take the Reverend back. "You can't do it, son," he said.

Steve looked toward Mom's room, where the door was closed. "Let me try, Dad," he said. "Please let me."

Dad looked at him for several minutes, then he said. "Your mother isn't asleep, Steve. You go and tell her the minister will be here in the morning."

Steve got up at five the next morning. Jim got up, too. He insisted on going with him. He wouldn't let Steve's Dad make the trip again.

sign of the Reverend Dixon. There was no motorboat on the river, either, only a small rowboat, in which a man in a blue-and-black windbreaker sat. Steve walked over to him.

"Have you seen anything of Mr. Dixon?" he said. "He was to meet us here at nine o'clock."

The man looked at his old-fashioned watch. "Maybe he heard the motorboat was out of commission, and thought he couldn't cross," he said. "Guess that you had better go over and get word to him. You could phone from Armstrong's to the Manse."

"Is that Armstrong's?" asked Jim, pointing to a small house across the river.

"No, that's Lander's," said the man. "Armstrong's is half-a-mile up the road north. Get in the boat if you want to cross."

They crossed the river in the little boat. The current was very strong, and the boat rocked sickeningly, but they reached the other side safely. They thanked the man and started up the road toward Armstrong's, walking briskly. It was beginning to blow hard now, and the clouds were moving across the sky like huge hunks of grey wool. Then suddenly they heard yells and shouts.

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"Who's that?" said Jim.

They turned, and saw that the man in the blue-and-black plaid jacket with another figure standing beside him, was waving at them to go back. Steve and Jim, clutching their coats and buttoning them against the biting wind, ran back. The Reverend Dixon stood beside the boatman at the river's edge.

"I was in Lander's, waiting for you," he said. "It was raining and chilly so I stopped in there. It was a good thing Mrs. Lander saw you passing, and told me."

They climbed into the little boat again. The wind was blowing hard now, and the river was swirling with angry-looking waves topped with yellow foam. The man in the plaid jacket had quite a time to keep the boat on an even keel. Steve began to wonder if they would ever reach the west side.

"Give me an oar, sir," said Jim, and the man seemed glad to hand over one of the oars. Great big chunks of timber and old dead trees came swirling past, and once Steve heard Mr. Dixon draw in his breath with a hiss, as a big piece of something that looked like bridge timber whizzed along on the surface of the river.

"That was close," said the boatman, and Jim held grimly to his oar, while Steve watched him, eyes wide with admiration and respect.

Gosh, he thought, it must be swell to be like Jim. Able to do everything so easily.

AND then it happened! Something shot out from the edge of the river. Something that was big and dark and menacing . . . Steve never knew exactly what it was, but he figured afterwards that it must have been the root and stump of an old spruce tree. Whatever it was, it careened against the side of the little boat, caught the oar that Jim was wielding, and the next moment Jim's place in the boat was empty and he had disappeared beneath the swirling water.

Steve stared with wide, horror-stricken eyes at the place where Jim had gone down. Sheer panic gripped him. He never stopped to reason that a man who had spent two summers up north would surely be able to swim. All he could think of was Sally, Sally waiting for him. All he realized was that Jim was overboard, in the wild water, and with a choking shout Steve plunged out of the boat into the water after him.

And then, miraculously, Jim was beside him, lifting his dripping head and grinning at him, hazel eyes still sparkling.

"You crazy, kid," Jim sputtered. "I'm all right."

Steve couldn't speak. He felt as if his heart were bursting. He swam alongside the boat. "I've got the oar," said Jim. He shoved the oar into the boat and the boatman brought the little craft into the side, as the boys battled the waves, and then trod water onto the riverbank.

The boatman looked at them. "Nice pair you are," he said slowly. "Now I'll have to row you back to Lander's, so you can get some dry clothes. You can't go home dripping wet like that."

Jim shook his head. "No, sir," he said. "We're on the west side of the river and we've got the minister with us. We're going home. Don't forget I'm getting married this morning."

Steve thought hard. It was a ten-

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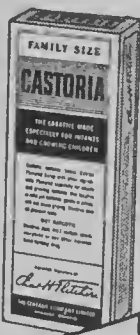
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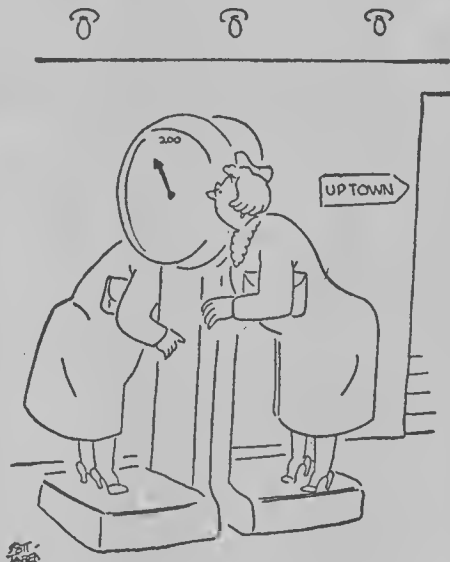
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mile, long, slow drive home. Jim might get pneumonia if he sat in wet clothes for that length of time. Nice thing for a bridegroom!

"We can stop at Ted Carlton's," he said. "He'll fix us up with dry clothes, I'm sure. It's only half-a-mile down the road."

"He's got the right idea," said the boatman. He grinned at Jim. "Guess you won't forget your wedding day, will you, son?"

"You needn't have jumped in after me," said Jim, as, dry-clad and comfortable, in clothes loaned by Ted Carlton, they rode slowly along the road west. "You might have known I could swim."



Steve flushed. He felt an awful fool. He knew perfectly well that Jim must think him a prize boob, even when Mr. Dixon said, "I think Steve showed great courage,"—it didn't help much.

Why hadn't he sat still in the boat? Probably now Jim would think he was a show-off. He squirmed uncomfortably, and wished miserably that the long road would end.

AND then, at last, they were at home. They hurried into the house to change into their best clothes before the family could realize exactly what had happened. Mr. Dixon kept Dad and Sally talking, and Steve told Jenny a little of what had happened, cautioning her to say nothing.

The wedding was held in the front room, and Steve figured it was just about perfect. Sally was the prettiest bride, and Jenny looked almost as pretty, in her blue dress with white. "Stars of Bethlehem" in her yellow hair. There were roses from town for Sally, and roses for Mom, too.

Steve was the best man. He had never thought about that part of it, and when Jim told him he wanted Steve to stand up with him he almost burst with pride. He almost forgot what a fool he had been at the river, except that he couldn't quite forget.

Then, when they were sitting down to the wedding supper—only they called it breakfast, for some reason—Jim said that he had an important announcement to make. Everybody was quiet, and Steve, looking at his new brother, wondered what was coming next.

Clearing his throat importantly, Jim said that he and Sally had been talking things over. They had agreed that, if living on a farm gave kids the courage and endurance they'd seen in this last day or so, they would like to live on a farm themselves, and bring up their kids to be like that, too.

Then Steve's father had to get out his big white handkerchief again. Jenny got up and kissed Sally and

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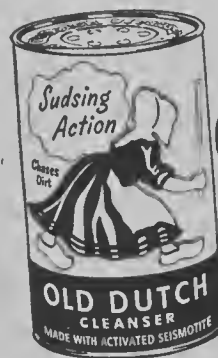
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hugged Jim. Mom was lying on the living room couch, and her cheeks were as pink as the roses on her new dress.

Mr. Dixon stood up and said, a twinkle in his eye, "Steve, I think Jim's remarks apply to you and Jenny. What about a speech on behalf of your sister and yourself?"

Everybody shouted, "Speech! Speech!"

Steve looked around the table at the happy faces, the stars in Sally's eyes, the pride on Jenny's pretty face, the glow of happiness that seemed to surround his mother, and his father's shoulders, straight at last, not tired any more.

He said huskily, "I can't . . . I can't make a speech! I can't even talk. I guess I'm just the happiest guy in the whole, wide world, that's all."

Raising Sheep Down Under

Like the wheat grower of the prairies the sheep producer of Australia has many problems

by LES BINGHAM

THE spectacular rise in price which marked the opening sales of the 1950-51 wool-selling season in August focussed the attention of a wool-hungry world on the Australian sheep industry.

There is a widespread belief that the Australian wool-grower owns huge areas of land and vast flocks of sheep. Clustered as they are in the coastal cities, most Australians also cling to that idea of the early days when James Tyson, King of Sheepmen, owned pastoral properties equal in the aggregate to the size of England, and who died a millionaire twice over.

Those days are gone. The fact is that Australia's 112,000,000 sheep are owned by over 29,000 graziers. The average wool-grower in Australia therefore has a flock of less than 4,000 sheep.

It is true that some companies still shear 60,000 to 70,000 sheep, but their holdings are fast being resumed for closer settlement, in particular to settle ex-servicemen on the land. An example of this is Tupra Station in the rich sheep lands of the southern Riverina in New South Wales. Four years ago Tupra had an area of 525,000 acres, running 65,000 sheep and 2,000 head of cattle.

The government resumed five 25,000-acre blocks of this land for soldier settlers—who are allowed to run one sheep to eight acres there—leaving Tupra only 400,000 acres. In this way the big holdings are gradually disappearing as more and more people clamor for land.

Wool-growing in Australia is not simply a matter of running sheep on well-grassed country, for the industry has many problems peculiar to itself.

Perhaps the greatest problem is the recurring cycles of good seasons and droughts. The lack of rainfall not only means shortage of water but an entire absence of feed as well, for the natural grasses are soon eaten out. In the drought of 1901-03 nearly 19,000,000 sheep were lost, not taking into account the loss of natural increase and that due to the failure of lambing. The last severe drought in Queensland, which broke in 1936, cost the lives of 6,000,000 sheep.

At such times many owners spend the whole of their resources, as well as what they can borrow, on the artificial feeding of their sheep. Then, with still no rain, they are forced to abandon their land. From the giant butcher's block set in the meat-house of abandoned Old Thornton in the north, across through the abandoned runs of Toomoon, Ripley, and Suva Downs, down to the sand-choked typewriter in the office of deserted Anandale on the South Australian border, onwards through deserted Mt. Gason, Koppramanna, Cowrie, and Kanowna, to the Murray in the south, I have seen abandoned homesteads standing forlorn and lifeless.

Then the rains come, breaking the drought but bringing with them floods and desolation. The normal wet-season floods however usually give warning of their approach, enabling sheep to be moved from low-lying areas. The airplane is now being used fairly extensively to drop fodder to starving sheep isolated by flood waters, so the problem of floods has been partly overcome.

Abnormal wet seasons such as those of 1950 make shearing conditions difficult and the cost of getting the



Some idea of the work caused by the blow-fly in Australia may be gathered from this picture of sheep-dipping in progress on a ranch in Central Queensland.

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wool off extremely high. In some districts many graziers suffered losses when they missed the opening sales in August to September, while skeleton shearing staffs were still trying to relieve sheep of the burden of 15 months' wool, weighted with mud and often damaged by bacterial action brought on by the wet until they were almost impossible to shear.

For the first time many shearing contractors stipulated that the owner was to be responsible for all extra costs where wet weather delays were in excess of two days throughout a shearing.

GOOD seasons bring their own peculiar problems for the sheep-owner to tackle. Following the rains the warm sun stirs the blow-fly to activity, and the blow-fly is the curse of the industry. Body strike by blow-flies is responsible for exceptionally heavy losses of sheep in the warmer states. To keep these losses to a minimum until the winter sets in, the grazer is kept busy jetting, crutching, and dipping his sheep.

With feed and water plentiful the rabbits come into their own, breeding at an almost unbelievable rate. They cause an incalculable loss in grazing by destroying grass, ring-barking trees, and eating tree seedlings, all of which accelerates the onslaught of soil erosion.

Mr. J. G. Crawford, Director of the Bureau of Agricultural Economics in Australia, estimated that rabbits consume the nutritive requirements of about 40,000,000 sheep, assuming that ten rabbits eat as much as one sheep. Mr. Crawford's figure of 40,000,000 sheep would represent about \$520,000,000 on present sheep and wool prices.

In terms of labor and scarce materials such as netting, it will be readily seen that the attempt to eradicate the rabbit from his property is a costly item in the budget of any wool-grower.

In the summer, with ample dry feed available, the sheep man is next menaced by bush fires. In 1943-44 there were 197 bush fires in New South Wales alone. Nearly 25,000 sheep died in the flames, while 1,480 miles of fencing and over 3,000 tons of fodder were destroyed.

In Victoria in the summer of 1938-39, 71 settlers lost their lives in the bush fires which destroyed hundreds of farmers' homes. Christmas Day, 1950, a grass fire which started on Ambathella Station in South-West Queensland spread on a 90-mile front until it had destroyed an estimated three and a half million acres of grass and bush country, hundreds of sheep, and miles of fencing.

These are not all the difficulties with which the wool-grower is confronted. He still has to contend with the dingo menace, water problems, grasshopper plagues, diseases such as grass-seed infestation, shearers' strikes, high prices for droving sheep, bad roads, and shortage of rail trucks for transporting both sheep and wool. In addition there is the scarcity of all classes of station labor.

Last year Australia received a wool cheque of \$1,250,000,000. No one realizing the never-ending problems confronting him will begrudge the Australian wool-grower his share of that colossal sum.

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Dairying in Australia

The dairy industry in Australia is confused and demoralized

by A. L. KIDSON

THE decision of the Australian Dairy Produce Board to suspend butter exports draws attention to some new and somewhat disquieting trends now developing in that country's great dairying industry. In recent months several Australian states have experienced butter shortages; and the Dairy Produce Board warns that these might become critical within the next three years. Australia would then have to reverse her old-established role as a large-scale exporter of dairy produce.

There are many reasons for the new trends—some sociological, some economic, some political. But the most significant factor is undoubtedly the decline in milk production. For the ten-month season ending April, 1951, Australia's total milk yield dropped two per cent below the output for the previous season. Of this lower total, a much higher percentage is now being taken by the local whole-milk and processed-milk markets.

Another important factor is Australia's increasing population. This is now growing (and will continue to grow through natural increase and planned immigration) by one-quarter of a million people each year—mostly urban dwellers. Along with this increasing consumer-body there is also developing a higher per capita rate of consumption. Since prewar years the "per mouth" consumption of fluid milk in Australia has advanced from 23.4

gallons a year to over 30 gallons. In the same period the average Australian has trebled his annual intake of condensed, powdered, and other forms of processed milk. Thus, diminishing quantities of milk meet increasing numbers of consumers, who are themselves accelerating their rate of consumption; so the amount available for butter-making falls geometrically.

In 1938-39 Australian churns delivered 203,500 tons of butter. Latest figures give the output as 161,090 tons. The business of checking this decline, and of bringing stability to Australia's dairying industry (a vital one in view of her huge current program of immigration and defence; vital also to Britain, seeking food from the Dominions) has long been bogged down in political controversy. The local retail price for butter was "pegged" by the government at 2s. 2½d. per pound, to which went a subsidy of 1s. 1½d. a pound. This return did not satisfy the Australian dairymen, who claimed that such rates, along with steeply rising costs, made milk production unprofitable—an argument much strengthened by the record

prices for wool. Thus many dairy farmers "switched over" to sheep, or raised other farm lines with a higher profit margin.

The government, for its part, faced a formidable dilemma: whether to meet the dairymen's demands by increasing the butter subsidy (already costing the taxpayer over £16,000,000 a year); or whether to raise the retail price, and thus increase the cost of living and the upsurge of inflation. For living costs in Australia are directly geared to wage levels, the one forcing up the other in an extremely "vicious" spiral. A way out of this impasse was finally found—at the expense of the consumer; but it can scarcely be claimed to have stabilized Australia's dairying industry.

Its effect on the local market has been drastic. In Sydney, where the official price for butter is now 2/8 a pound, supplies are often unobtainable—except on the black market, at prices ranging up to 10/6 a pound. Sydney housewives can sometimes get a pound from their retailers by having the docket marked "groceries 3/2." In Melbourne, capital city of Victoria, Australia's greatest producer state for



milk and butter, the fixed price is now 3/2 a pound; but even at that the supply is by no means unrestricted, owing to the heavy "drain-off" to surreptitious markets. Brisbane, too, has had acute butter shortages. The result of all this is an increasing demand for the removal of restrictions on the manufacture and sale of margarine, a food line that Australia could produce in vast quantities. The effect of such production on the local dairy industry can well be imagined.

Latest contribution to the "stability" of the industry has been an industrial award granting a 40-hour week for dairy farm workers. This award originally provided for a seven-and-a-half-hour working day (though milking times are normally separated by at least 12 hours), payment at penalty rates for all hours worked in excess of 40 per week, paid holidays, the keeping of time-books, and sundry other "helpful" features. The terms were modified by an Industrial Appeals Court, which ruled for a six-day working week of 48 hours. But even that, it is claimed, will mean a further steep rise in the price of milk and milk products, and will help to force more producers out of business. Some assert that the new award will attract workers to farms, and so help to solve some of the dairymen's problems. Those running "one man" or "family" herds, of course, will not be affected.



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Lady Coach

Continued from page 10

coherent. "She's president of this and chairman of this and that until there's not a person she hasn't bullied into doing what she wants."

"She got us our rink, and our club sweaters," Shorty protests in his bird voice.

"And she's got your old man taking subscriptions for the S.P.C.A.," he roars back.

The noise is getting terrific. Everybody talks at once.

Bert thumps his skates off, and reaches for his mukluks. He says, "A dame 40 years old for a coach. Them Fern Valley guys will laugh us off the ice."

Mike breaks a shoe lace, and makes an impromptu and uncomplimentary speech on our local merchandise. "Forty," he concludes, "Miss Purdy was 40 when my old man played hockey."

Somebody had to put in a word for Miss Purdy. I says, "She knows hockey, never misses a game, seen all the city playoffs. I vote we give her a chance, maybe honorary coach or something."

Somebody—I never find out who—sniggers, but the ice is broken, and after some discussion, Miss Purdy is accepted as new coach for our two final games against Fern Valley for the Carnwood Cup.

NOBODY is late for the eight o'clock practice, not even Shorty, and Miss Purdy is there first. It's just as Bert prophesied. She don't interfere,

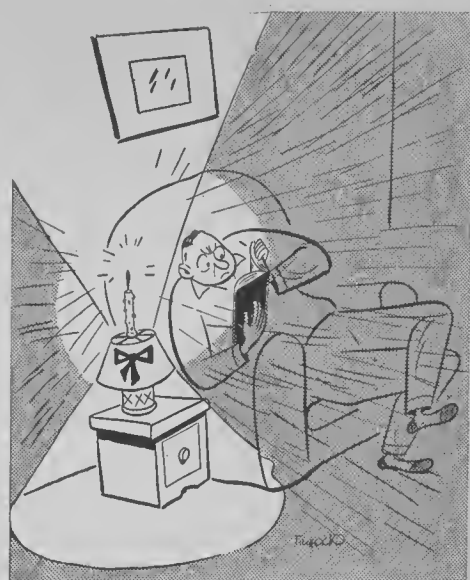
just watches Mike put us through our regular routine. Mike demonstrates how to fill the net with rubber, and has Shorty splitting himself trying to stop a few, but Miss Purdy doesn't appear impressed. She smiles only once. That's when Midge trickles through to catch a rebound off Shorty's pads, passes to Ozzie on the right, gets it back, and scores. After the practice she gives us a pep talk, honor of Carnwood, and all that. Then she takes us over to Happy Joe's for buckwheat cakes and coffee. That isn't bad.

When the *Bugle* hits the street, on the front page she has a picture of Midge, and underneath it says, "Going Places." We agree with Mike that this week's edition of the *Bugle* is sort of ragged.

The following morning is different. Miss Purdy, in toque, slacks, and moc-casins, is right out there on the ice. First she gives Mike a pair of leather laces, the kind our dads used to get in the '30's; then she hands Shorty a roll of tape for his stick.

We circle the rink a few times, skate our lanes up and down, warm up on goal; and feel quite foolish about it all. We miss the usual scrimmage play, everybody after the puck, with Mike having it most of the time. Nobody says anything though, and I keep thinking of buckwheat cakes and coffee in Happy Joe's.

Then if she doesn't line us up from blue line to blue line, and have us play in and out the windows in double time, carrying the puck of course, and then ramming it home on Shorty in goal. Midge does all right, keeps the disk tucked in, and skirts the boys



real close; but Ozzie has to scramble it, and Miss Purdy calls him a clumsy something or other. Bert tells me afterwards it's a Sunday School word, and Mary once rode on one.

There is a lot more of it, but Mike doesn't get his chance to demonstrate how to fill the net with rubber as he calls it. Instead, Miss Purdy has him passing the puck to Ozzie on goal rushes, while Midge practices shots on a tin can at the far end of the rink. He gets real accurate, too.

Over buckwheat cakes and coffee at Happy Joe's she talks strategy. "You've got to watch your man," she says to me. "Get him just the moment he shifts stride with a good, clean body-check. No dirt, remember," she adds, looking at Bert. "Always be a gentleman." To Shorty she says, "Get your skate behind the stick. Kick out the low ones." And to Mike who is getting

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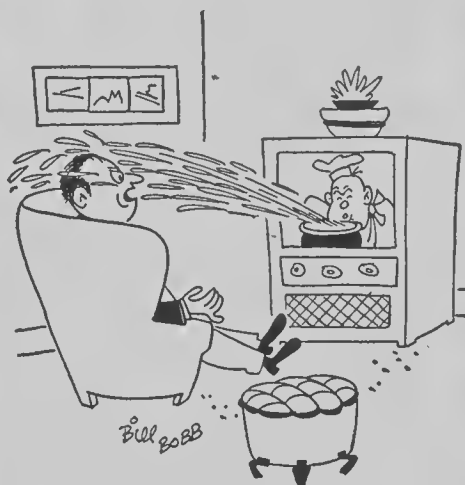
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more than his share of cakes she snaps, "Don't be a hog, Mike. Pass one now and then."

IN our next game we barely scrape past Fern Valley All Stars, Ozzie scoring the winning counter on a fluke play. Mike isn't feeling too good, and is off his game. But we make it, and the series stands at one game apiece.

Our final game is on their ice, and the boarded sides of the rink are lined with local support. Feeling between us and Fern Valley is at a high pitch. Always was. Carnwood's more progressive, with five grain elevators, and our own newspaper. Besides, we've got the bus terminal so travellers stay overnight at the Carnwood Hotel. Of course, Fern Valley's got the new consolidated school, but that isn't here nor there.

Well, up to the third period, it's anybody's game with the score tied at two goals apiece. Mike has scored both with Midge getting credit for assists. Shorty is handling shots on goal in big-time style, and getting good support from Bert and myself. Maybe going to bed early, and laying off smoking and cards for the "duration" as Miss Purdy calls it, has something



at that. Anyway, we are holding them. We have to, or lose the Carnwood Cup.

Then we get our big chance. Near the five-minute mark in the third period. Play tears from end to end. The crowd's going wild. Mike picks up a loose puck at his own blue line, and breaks over center. It is pretty to watch him handle that piece of rubber. There is no stopping him. Only one All Star defenceman to beat. He's through, but too far. The angle for his shot on goal is narrow as a whisker. He lines her up.

Then Midge is there, in the clear, hammering the ice for a pass right on the All Star doorstep. Mike throws him a glance then lets fly his shot. It caroms off the goal post, and the All Stars ice it. If only Mike had passed one to Midge. It was a dead ringer for a goal.

From then on the play is sticky and rough. Near the end of the period Ozzie snatches the puck on a back check and cradles it along the boards. I don't see just what happens, but all at once sticks go high, and the big All Star left wing and Ozzie are mixing it. Players push in. The referees tear around, then break through. The cheesy looking All Star coach is yelling murder. When the air clears, Ozzie is being thumbed to the penalty box.

It is then Miss Purdy hits the ice, and when I say hits the ice, I mean just that. She comes over the boards, and doesn't stop coming until she's

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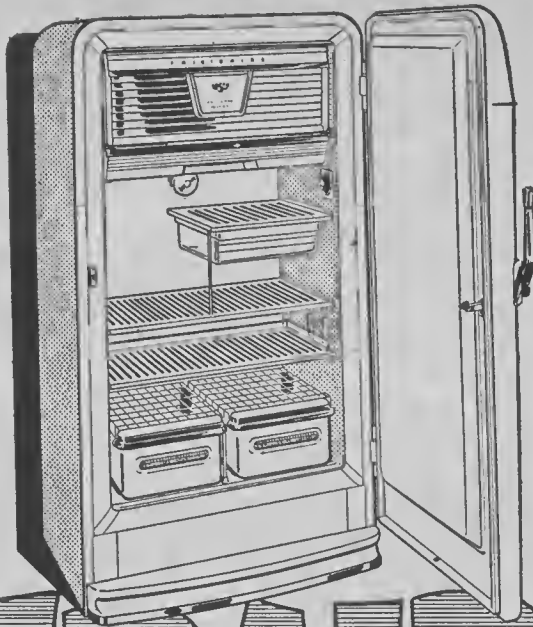
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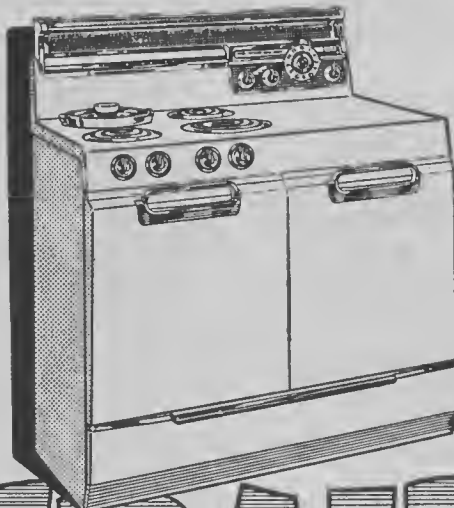
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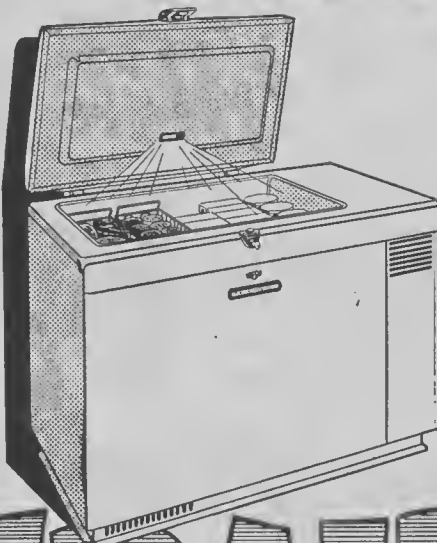
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face to face with the referee doing the thumbing. She's protesting as she comes. The All Star forward had shoved the butt end of his stick into Ozzie's ribs, and bodychecked him into the boards.

There's a hasty consultation, and in short order the referees bring another thumb into life, and the All Star forward is on his way. That set off fireworks. The cheesy looking coach pushes his nose into the circle of players, and raises a protesting voice—raises it to the heavens. The referees wave him to the boards, and when he continues to be real vocal, one of them skates over and assists him to the gate. The crowd loves it, and stands on its toes to roar. Peanuts and paper litter the ice.

Time is called to clear the surface, and the final minutes end in carnival spirit. The game goes into overtime.

WHILE waiting for the bell, Miss Purdy lays down our strategy. Lays it down on the floor in chalk. When we leave our dressing room the Carnwood Cup is as good as ours. That is, if Mike comes through. We see Miss Purdy take him into a corner for a final briefing, and when he comes out on the ice, his face is as long as Monday's wash.

Fern Valley All Stars know that Mike is our key man. They know he is deadly in front of the net from the blue line in. From the drop of the rubber they are glued to him, checking and hounding him on every play. Their big defence keep him herded to the corners.



"Oh Junior—You and those wild tales!"

We force the play from the instant the disk hits the ice. Ozzie gets his stick on it, drives it hard and fast to the corner. The crowd stops yelling. This is new. That is Miss Purdy's chalk marks coming to life. Our line races in after the puck, catches their defence off guard, and Mike has the rubber. The All Stars squeeze him. That small angle is open on the goal and Mike itches to try it, but he feels Miss Purdy's eye on him. He makes a feint, a flip pass to Ozzie behind the goal and there it is. Ozzie catches the pass, deflects it in the direction of Midge waiting on the doorstep and—bang! The goalie, switching from left to right, never has a chance. The Cup is ours.

Next morning the Bugle comes out with headlines of our victory. Pictures of the team, and pictures of Mike and Midge center the page. Of Miss Purdy there's not a sentence, but, as Mike says, that's neither here nor there, for we aren't likely to forget how she coached us to the Carnwood Cup.

The Countrywoman

You Can't Divorce Yourself

THERE are two illusions common to both men and women: that someone else is always more to blame than we are; and, that by getting away from an unhappy situation we are doing everything needful to cure it. In the majority of cases these ideas are wrong.

In an unhappy marriage, for instance, there are undoubtedly cases where it would be difficult for even a Solomon to decide which was the greater culprit. The seeds of marriage are sown in childhood, for nothing depends so much on character as does that intimate relationship. Whether those seeds have matured well or badly is shown by our ability to choose a good mate, to face matrimony before entering it and, more than all, by the handling of situations arising out of it, afterward.

If we rush into marriage with no proper knowledge either of ourselves or of our future partner, that isn't just romance or the spirit of adventure. It is a weakness in our character, which may have shown itself many times before, only we were too blind to notice it; too deaf to hear the warning. If we marry without realizing what marriage itself is, then it means that we have made poor investments in the past in friendship, money, clothes—and now we are simply repeating ourselves with ever so much more at stake.

It is "for better or worse" when we marry. After that it is up to us to see that we pull our proper weight on the new team. But many of us have the mistaken idea that matrimony is the panacea for all ills. However unhappy and confused our lives have been, everything will be orderly and blissful now. We have forgotten that we are still ourselves and no words spoken by a clergyman, however beautiful, can change what we have made of ourselves. Not only that but there is now another individual of definite characteristics, to complicate matters. Before there were only our own and minor personalities to be considered. Only if we have learned to live with ourself happily first will we be able to live happily with another. Then as things go wrong, we will first examine and correct our own manner, action and words instead of those of our partner.

The vital point in any unhappy situation is not that we can appear faultless in the eyes of others but that we try to discover whether the fault lies within instead of without. Changing a job, a home, a husband doesn't solve anything in most cases. It simply shifts the old problem into a new setting. But it is amazing how often when we really start changing ourselves that everything and everyone about us also seems to alter too. It is not what happens to us but our reaction to it that is the very "core" of living.—Gilean Douglas.

Neighborly Postscript

RECENTLY a letter came from Theresa Lodoen of Fox Valley, Saskatchewan, asking that she be permitted to add a postscript to a story which appeared on this page in the July, 1951 issue. That had been a fact article telling the story of Mrs. Lucy Carpender, teacher, farm wife and active member of the Wild Rose Homemakers' Club, started in 1913. It related how it came into being and its many friendly and helpful activities. In that letter Mrs. Lodoen says:

"The club, though no longer Homemakers' is still very much alive. Two of the original members attend regularly. There are 15 active participants, spreading over an area of 14 miles. They manage to meet every second Thursday, unless blocked roads prevent. While they visit and relax, fingers fly and the family's week's mending gets done. Those, lucky enough to have no mending to do, crochet, embroider or knit. Each meeting is ended by a delicious repast. Recipes are shared but there is a rule which says that refreshments must not be elaborate or the hostess is fined.

"No bride or new babe in the neighborhood for miles around goes unshowered. Every silver wedding anniversary is made into a gala occasion, each

*We consider some things of the spirit
which contribute to happier living and
true neighborliness*

by AMY J. ROE

couple receiving a suitable gift inscribed by the 'Sewing Club Ladies.' Any money raised at their parties is spent on something for the school: books, cups, curtains, etc. The annual Christmas concert has become a tradition and has not been omitted once since Mrs. Carpender taught there.

"It is refreshing, in these modern days of strain and rush, to visit with these neighborly people. Not long ago, their present teacher, who is married and has her own home and family, remarked that she would like to make a wool quilt but did not know where she would find the time to make it. The club ladies suggested that she buy the covering and other materials. At their next meeting they brought along needles, thimbles and a quilting frame. By the time the school classes were dismissed and the teacher joined the group, the quilt was almost complete. In fact the teacher only got in the last few stitches.

"Yes, this group of friendly farm women, whose club originated in lonely pioneer days, is to be commended for their fine spirit, enterprise and their ability to get along together. You see—I am that lucky teacher—lucky to have had my quilt made for me but still more fortunate that I can call Ingebright my home and these inspiring women my friends."

If You Have Made Gentler the Churlish World

*If you have spoken something beautiful,
Or touched the dead canvas to life,
Or made the cold stone to speak—
You who know the secret heart of beauty;
That has made gentler the churlish world,
Though mankind pass you by,
And feed and clothe you grudgingly—
Though the world starve you,
And God answer not your nightly prayers,
And you grow old still hungering at heart,
And walk friendless in your way,
And lie down at last forgotten—
If all this befall you who have created beauty,
You shall still leave a bequest to the world
Greater than institutions and rules and
commerce;*

*And by the immutable law of human heart
The God of the universe is your debtor,
If you have made gentler the churlish world.*

—MAX EHRMANN.

How We Kept Our Teacher

SOME rural schools are successful in keeping their teachers for a good period of time. The pupils benefit by having a teacher whom they come to know, who understands them and the continuity of her method of teaching. Others find that their teachers are constantly changing, sometimes within the school year.

In the main, country schools get the inexperienced teachers. Some are just freshly out of normal school, while others have not completed that formal training for a job and are only on "permit." It is to be expected that young teachers will change positions more frequently than those who are more mature and settled. The real teacher grows with experience and the passing of the years. The young teacher brings a freshness of viewpoint and enthusiasm which can carry her far. But she is vulnerable because of her youth. She has to find herself in her work, find a new home and mix with strangers, experiences common to all young people starting out in life.

As she gains confidence in herself and her work she is often able to make a real place for herself in the social life of the community. The length of time a teacher stays in a given community is dependent on many factors: working conditions in the school, its equipment, a suitable boarding place and how she is able to mix in the social life of the neighborhood. The trustees may secure a good teacher and provide her with an excellent classroom but much will depend on the neighborhood whether she will be made to feel that she is at home and among friends who wish her every success in her work.

There are many communities in western Canada, which have consciously or unconsciously planned and worked to keep a good teacher. We would like to hear about them. Those experiences told would no doubt help others. So this month we invite readers to tell The Country Guide: How We Kept Our Teacher. Letters may tell of interest taken in the school, proper support for improvements desired, support in times of criticism, providing a suitable boarding home and efforts made to encourage the teacher to identify herself with the social life of the community. While the feminine personal pronoun has been used throughout we realize that everything may apply equally to men teachers and they are included in the term—teachers. Keep the letter short and address it to The Countrywoman.

A Novel Calendar Book

ARE you the kind of person who likes to keep a diary or a family scrapbook? Why not combine the two ideas into an interesting illustrated book of the year and of you? It may be a personal journal or a "family" affair. Those who take part in the making of it will have fun. I started such a calendar book several years ago and I enjoy looking at it every time I open it. I used a heavy-backed notebook. A good looseleaf book might be even better. Here are some of the pages I filled each month.

Family Affairs: All the interesting, exciting doings and activities were recorded briefly. There were such items as a baby cousin born, the trip my brother made to Vancouver, visitors to our house, a new car bought, someone leaving to attend a convention or to take a short course. Many arguments in later years have been settled by a look in the calendar book.

Personal Column: This was my own monthly account of my doings; the social events I attended, the books I read, concerts and shows attended, new friends met and interesting things which happened to old friends. After each entry I added a short comment.

School News: This covered the names of teachers and students and any special events happening around the school. It is surprising how quickly you can forget a name or a date, once the year is over.

World News: Briefs of important events each month. This may help you to track down some information you may want later for reference in some paper or talk you have to prepare.

Illustrations help to make an event come to life again in later years. Snapshots, magazines or newspaper illustrations can be added in the proper section. The nicest valentines received, the most attractive Christmas cards, some favorite or seasonal poem—all from that particular year will serve to bring it back in memory quickly. Lighter items such as popular fashions, movie stars or sports leaders may be added. It is amazing to find how quickly trends and styles change, as you will soon discover.

Each person will have different subject interest. The country person has special interest in weather, gardens and crops, and may wish to make notations on these for comparison with future recordings. Radio fans will often find items such as source of material, addresses given, book reviews, etc., of good help later on. Start your first calendar book with the current month. You will find it a delightful hobby.—Audrey McKim.

Make-over Magic



With the use of bright colors, suitable materials and young styles "make-overs" can delight your youngster even as they double the life of clothing

by LILLIAN VIGRASS

the new one wider and, if the style permits, longer. Release the pleats or fullness as necessary so the yoke fits once again. Add contrasting cuffs over the extension on the sleeves and a pocket trim if desired.

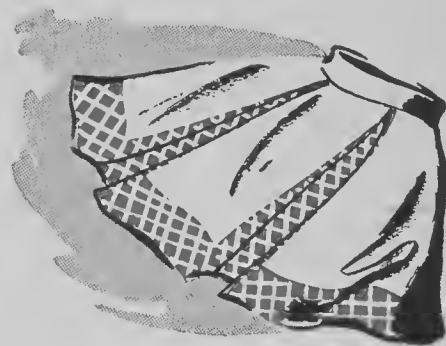
Velveteen makes an attractive trim for a tweed or checked coat or even on a plain color. Try brown velveteen on a brown and white check, navy on a red or blue. On a plain color coat add a contrast in a fine check or tweed—green, brown and white check on a green coat or black and white on red. If possible cut the strips on the bias for interest as well as a good fit.

Boys' coats and girls' box-style coats cannot be lengthened easily. They can however be cut down to make jackets of a good length. Add storm cuffs to lengthen the sleeves and move the buttons to fit. If the shoulders are too narrow release the pleat at the back. A school girl's spring or fall outfit can be made of a coat that has been cut to jacket length and the sleeve extension covered with cuffs. Make pocket and collar trim, cuffs and a new skirt of contrasting material whether velveteen, check or plaid. Perhaps a second outgrown garment can be used for the skirt and trimming.

Children seem to outgrow their overalls more quickly than anything

when necessary. Leave plenty of strap length for extending the length of the waist. The easiest pattern for making overalls from other garments—an old corduroy skirt or jacket is excellent for making into overalls—is one with the bib added as an extra piece. Add cuffs if possible for these can be let down later to lengthen the legs.

Little girls' dresses with full skirts are the easiest to make over or make do. A band or two of contrasting color inserted in the skirt add to the attractiveness of the dress as well as lengthen



it. Tighter skirts can be extended by inserts of pleats or flares of a second color with a band of the color at the hem.

To lengthen the waist of a dress the easiest method is to set in the belt. Plan on this when the dress is made and place the belt over the finished dress. If there is no belt on the dress set in one of a different color with a yoke of the same material at the top of the gathered skirt. Another suggestion is to add an imitation pinafore frill to match the set-in belt on the bodice and skirt.

If a small child's dress is to be made with crosswise tucks in the bodice be sure to add a tuck to the back, too, and if possible, located below the armhole. Removal or shortening of these tucks will add length to the bodice. Similar tucks on the skirt can be removed to give length to the dress. If there is a color difference due to fading or sunlight, or if the old stitching line shows, add bias binding, rickrack braid or lace to cover the alterations.

Bias binding or braid is a good means of tying together contrasting materials. Several rows of binding the color of the dress on the contrasting band of a skirt gives a pleasing effect. A row of braid of a third color at the joining of the two colors will add unity to the design. For example, add a slightly shaped wide blue band to lengthen the skirt of a blue and white striped dress. Outline the joining seam

MOST children are just growing into their clothes or already growing out of them. Whether toddlers, of school age or adolescents, their clothes always seem to need to be taken up, let out or let down. Yet every child, to be healthy, must have clothes that fit properly; to be happy, his clothing must give him a feeling of well-being.

When clothes fit for so short a time it is no mean task to keep a youngster well dressed, yet stay within the clothing budget. At the same time no child wants to wear clothes that look "made over." Mothers must use all the ingenuity and foresight they have if clothes are to fit until they are worn out.

With care the home seamstress can even add to the attractiveness of children's garments as they are altered. Young styles, suitable materials and a good fit are essential if the make-overs are to serve their purpose well. Add gay colors and toyland or storybook designs, then watch the youngster beam as he wears his "new" outfit.

Children grow so quickly there are at least three definite adjustments to be made for a garment to continue to fit. Waist length and the width of the shoulders, chest and waistline change as rapidly as the full height of the youngsters. Although it helps when making their clothing to consider the future possible alterations and to allow extra material where practical, the allowance of a large hem and an extra large seam under the arms is not enough. Most children's clothing can be extended, however, by combination with other fabrics, other too-small

garments or extensions of some other kind.

Children's coats are the most difficult to make-do for another year and yet they are the most expensive to replace. A small girl's princess-line coat which is too tight across the chest and too short in the sleeves can be made larger by the addition of contrasting strips of material down the side front and side back seams. Cover the sleeve extension with turn-back cuffs of the contrasting material. A



collar piping or pocket trim of the same material may add a feeling of unity to the design.

If a child's coat is designed with a pleated or full skirt which falls from a yoke, add a wider yoke of a contrasting material to the garment. Use the present yoke as a pattern and cut

else. Plan on this when you make them and use a pattern a size larger than your child now wears. Use fairly large seams and turn up the extra length in a cuff. Button over the extra width at each side and if necessary stitch in a second side seam one-half inch from the first. This can easily be removed

with a red braid and bind a blue collar to match.

If a dress is just too small all over consider restyling it as a jumper or sundress. Cut off the sleeves and if it is too short, in the waist drop it an inch or two by adding a band and straps of a different color at the top. Add a band of color on the skirt if necessary. Let out the underarm seams and the hem to the limit and add some applique or a design of the same contrasting color to the jumper pocket or skirt.

Two dresses sometimes may be combined to make a new dress for the quickly growing daughter at school. The bodice and sleeves of one dress added to the skirt of a second can make an interesting costume. Add cuffs and collar of the skirt material and insert bands of the bodice material in the skirt for lengthening if necessary. A plaid or striped skirt and a plain color top are especially good.

If the top of a dress is too small or worn out under the arms plan to cover the mends or inserted material with a weskit or bolero. Add the necessary width and length to the dress at center front and back, under the arms and with a set-in belt at the waist. Add a brightly colored weskit and the dress is like new.

Make a bolero from the top of a winter dress that is too small. It can be worn with the let-out skirt and a light blouse, with other skirts in the wardrobe or with a dress of a contrasting color.

A tear in a dress can often be covered by a piece of applique or embroidery. Cover the torn area around a pocket by removing the pocket and applique in its place a big red apple, a valentine heart, a grinning Cheshire cat or the storybook gingham dog and calico cat. Cover a yoke with embroidery if it is faded or of a slightly different color. Cowboy designs will cover the bib of overalls that have been pieced and a spray of flowers can cover the mend in a small skirt. Cover the knees of very small overalls with appliqued rabbits, cats, elephants or toy designs. They are fun for the youngsters and help to save the knees of the children's overalls. As for designs you can find all the ideas you can possibly use in the children's story and coloring books. Simplify them or add to them as you like. The children will love them.

HAVE YOU A SEWING PROBLEM?

Ed. Note: Clothing is expensive these days. Materials are pretty, styles simple and pattern directions easy to follow. It can be fun and a considerable saving to make your own or your children's clothes.

We invite our readers to tell us their sewing problem or offer any helpful hint or suggestion which they have discovered. What is your particular sewing problem? Is it the choice of style and material to suit your figure, size and age? Do you have difficulty understanding directions, cutting, fitting or assembling a garment? Do you know how to adjust a pattern to an off-the-usual-line figure, such as sloping shoulders or a flat bust? Does the actual sewing present any difficulties to you? Write us a letter about your difficulties or offering suggestions. Keep the letter as short as possible and address it to the Home Department, The Country Guide, Winnipeg.

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*Trade Mark



This pretty Montreal housewife and mother, age 24, models her favorite Gothic* Bra . . . shows how exclusive Cordtex* inserts do *all* the UPlift.



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[†]No retouching on the bra . . . no hidden wires! These are actual photographs, *just* as they were taken! Model is wearing a Gothic "Elfin", model 1321, size 34 . . . with wonderful Cordtex inserts and Fabrilast* shoulder straps that *won't* tear loose!

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Roast Veal for Dinner

A menu planned around a veal roll features contrasts in flavor, texture and color

MENU

Roast Veal Roll
 Fruit Dressing
 Mashed Potatoes with Gravy
 Buttered Parsnips
 Individual Carrot and Raisin Salads
 Boston Brown Bread Butter
 Lemon Cake Pudding
 Coffee Tea Milk

Fruit Dressing

6 c. bread cubes $\frac{1}{3}$ c. butter
 $\frac{1}{2}$ c. dried prunes 2 T. brown sugar
 $\frac{1}{2}$ c. dried apricots $\frac{1}{4}$ tsp. cinnamon
 1 c. hot water

Toast bread cubes in moderate oven until golden brown. Soak dried fruit in hot water until soft. Drain and save liquid. Cut fruit in small pieces. Combine with bread cubes. Stir in sugar and cinnamon. Toss together lightly with melted butter. Add enough water to liquid from dried fruit to measure 1 cup. Pour over bread cubes. Put into an 8-inch pan. Bake in slow to moderate oven for 45 minutes. Cut in squares and serve with veal roll.

Raisin and Carrot Salad

$\frac{1}{4}$ c. raisins $\frac{1}{4}$ c. boiled dressing
 1 c. grated carrot

Grate carrot and measure but do not pack it into the cup. Plump raisins by allowing to stand in hot water for 5 to 10 minutes. Dry raisins in towel and add to grated carrot. Toss lightly with the dressing. Pile on lettuce leaves and arrange on a large plate or in separate salad plates.

Lemon Cake Pudding

2 T. butter $\frac{5}{8}$ to $\frac{3}{4}$ c. sugar
 $\frac{1}{4}$ c. flour 2 eggs
 1 lemon 1 c. milk

Place the butter in a mixing bowl; let stand until soft; stir in the flour. Grate rind from lemon; add with the juice to the flour-butter mixture. Add the sugar gradually and mix thoroughly. Beat the egg yolks until light; add the milk; stir into the first mixture; fold into the egg whites beaten stiff but not dry. Pour into a buttered baking dish; place the dish in a pan of hot water and bake in a moderate oven (375° F.) for 35 to 40 minutes. The center should be firm to the touch when pressed lightly with the forefinger.

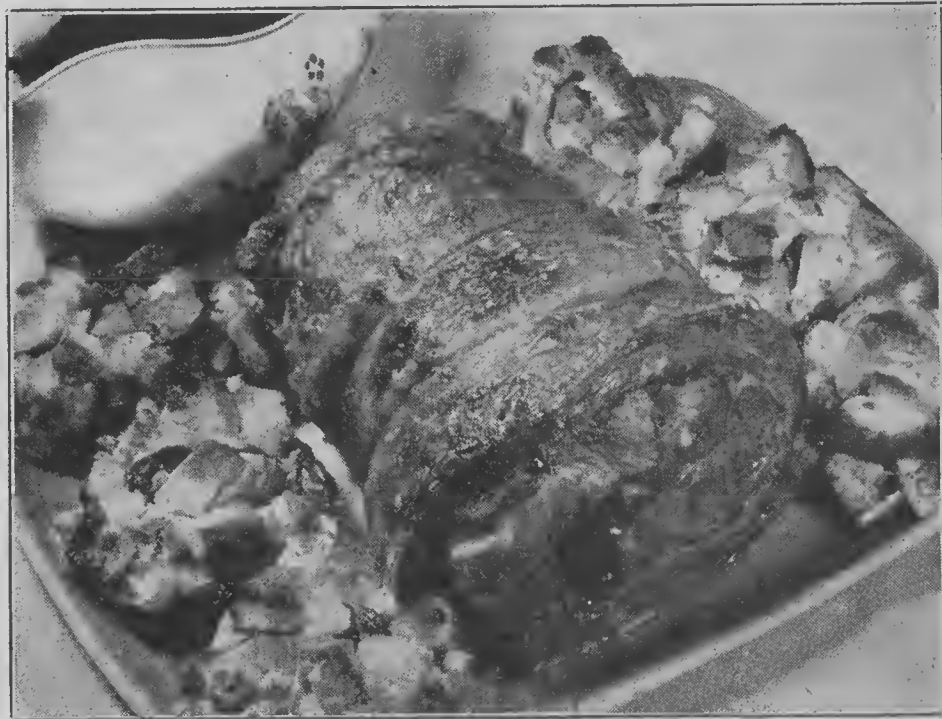
Boston Brown Bread

$\frac{1}{3}$ c. white flour $\frac{1}{3}$ c. whole-wheat flour
 $\frac{1}{2}$ tsp. salt
 $\frac{3}{4}$ tsp. baking powder $\frac{1}{2}$ c. corn meal
 $\frac{1}{4}$ tsp. soda $\frac{1}{4}$ c. dark molasses

Sift flour, salt, baking powder and soda together; add the whole-wheat flour and corn meal. Add the milk (use the larger amount if water-ground corn meal is used), and molasses; stir until the batter is well mixed. The mixture will seem very thin. Pour the batter into a well-greased mold, which should not be more than $\frac{2}{3}$ full. Cover tightly. Steam or cook in double boiler for 2 to 3 hours; or oven poach at 275° F. for 2 hours. Dry in a slow oven for 15 minutes. Cool.

Veal Roll

If the meat is not ready for roasting when purchased have the butcher remove the bone from the shoulder cut. Wipe with a damp cloth. Roll tightly with the fat to the outside and tie in several places with string. Roast on a rack in an open pan in a slow oven (325° F.). Allow 40 minutes per pound. Make gravy with the drippings allowing 2 tablespoons flour and 1 cup liquid for 2 tablespoons of dripping.



Serve veal roll with a fruit dressing for a special mid-week dinner.

Tea-Time Dainties

Extra-attractive small cakes and cookies will add the finishing touches to a special occasion



A pleasing array of tea-time dainties will add enjoyment to afternoon tea.

BITE-SIZE dainties, tiny cakes with pastel icings and small, crisp cookies can make the tea table the center of early spring festivities. Yet they can be easy to make and quick to serve if these simple recipes are used. Daintiness is the keynote of all tea-time treats.

Make the brandy snaps in the shape of baskets by allowing them to cool over custard cups. Fill them with whipped or ice cream and let them be the feature of your next tea party. A very exclusive tea room I know makes these its specialty.

Make cup cakes from your favorite light cake recipe. Add shredded pineapple, coconut or grated orange rind, if you like, and decorate them with flavored and tinted frostings.

The cheese cake is very rich so cut it into inch squares. The dream cake and brownies, too, should be cut into small pieces or dainty fingers. Each is rich enough that it need not be iced unless you have a very sweet tooth.

Brandy Snaps

4 T. butter	7 T. flour
4 T. molasses	Rind of 1 lemon
3½ T. sugar	1 tsp. ginger

Warm molasses and butter together. Add sugar, blend. Add flour, lemon rind and ginger. Grease cookie sheet. Drop four on a sheet at one time. Each should be ½ teaspoon size as they spread as they bake. Bake at 300° F. (slow oven), until the bubbles first formed burst. Draw sheet out of oven. Pick up each and roll it over the forefinger to form a loosely rolled cookie. Place on rack. Serve as is or fill with whipped cream before serving.

Cheese Cake

35 rolled graham wafers	½ c. butter
	2 T. sugar

Rub all together. Divide into two parts. Reserve half for top. Put other half in 8-inch pan. Pack. Bake 5 minutes at 350° F. Make filling number 1 or 2; spread over baked crumbs. Spread remaining crackers over filling and bake another 15 to 20 minutes at 350° F. Cool. Refrigerate to set.

Filling No. 1:

1 lb. cream cheese spread	1 egg, beaten
1 c. (less 2 T.) sugar	12 maraschino cherries
	½ tsp. vanilla

This cheese may be purchased from any dairy and is much less expensive than

the packaged type. Blend well. Add cut-up cherries to the top cracker crumbs or to filling. (Shredded pineapple may be used in place of cherries).

Filling No. 2:

4 eggs	1 c. heavy cream
1 c. sugar	1 lb. cottage cheese
¼ tsp. salt	
1 lemon	¼ c. flour
½ tsp. vanilla	

Grate lemon rind; remove juice. Beat egg. Add lemon rind and juice with remaining ingredients to beaten eggs.

Dream Cake

1¼ c. flour	Pinch of salt
½ c. butter	

Mix above ingredients well. Spread and press into an 8 or 9-inch pan. Bake (375° F.) to a light brown while preparing the filling:

2 eggs	1 T. flour
1¼ c. brown sugar	1 c. chopped nuts
½ tsp. baking powder	1 c. coconut
¼ tsp. salt	1 tsp. vanilla

Beat the eggs well; add the other ingredients. Blend well. Spread on cake while still warm and bake another 10 minutes.

Brownies

½ c. butter	¾ c. flour
1 c. sugar	¾ c. chopped nuts
2 eggs	2 squares chocolate
½ tsp. vanilla	

Melt chocolate in mixing bowl. Cool slightly. Add butter and sugar; cream well. Blend in slightly beaten eggs and vanilla. Sift flour, measure and add, with nuts, to the mixture. Mix well and pour into an 8-inch pan. Bake at 325° F. for 25 minutes. Do not overbake.

Dad's Cookies

2 c. brown sugar	1 c. coconut
1 c. butter	½ tsp. soda
2 eggs	1 tsp. baking powder
1 tsp. vanilla	
2 c. rolled oats	¾ tsp. salt
2 c. flour	

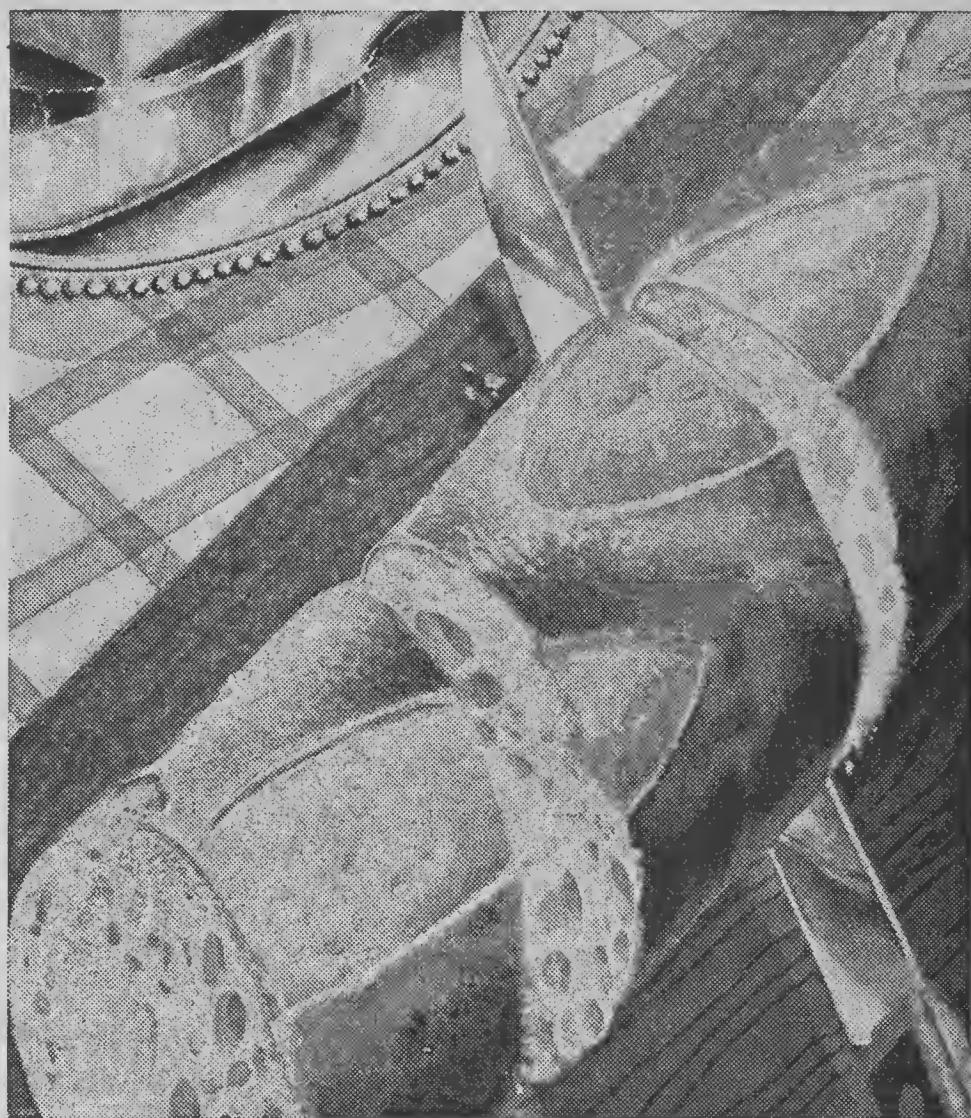
Cream butter and sugar until light and fluffy. Add vanilla. Add well-beaten eggs. Sift dry ingredients; stir into mixture. Cool well. Roll thin and cut into desired shapes. Bake at 375° F. on the upper rack of the oven for 8 to 10 minutes or until well browned.

Petits Fours

Bake a white or light cake in a sheet pan so it is about 1 inch thick. Cut when cool into squares, diamonds or triangles of 1-inch size. Use a sharp knife, wiping it after cut if crumbs accumulate on it. Brush the loose crumbs from the cake;

Surprise! Treat!

REAL FRENCH BREAD



Gloriously Crusty, Wonderfully Tasty—made with fast-acting DRY Yeast!

● Once you've nibbled the crust of this super-crispy French Bread you'll never be able to stop! Men will go on a bread diet for days with it! It's fascinatingly simple to make with this recipe—using the wonderful new Fleischmann's Fast Rising Dry Yeast!

If you bake at home—forget your former worries with perishable yeast! Fleischmann's Fast Rising Dry Yeast keeps full-strength and fast-acting for months without refrigeration! Keep it in the cupboard—get a dozen packages to-day.

FRENCH BREAD

(makes 3 loaves)

Scald

½ cup milk
¾ cup water
1 tablespoon granulated sugar
2 teaspoons salt
2 tablespoons shortening

Remove from heat and cool to lukewarm. Meanwhile, measure into a large bowl

½ cup lukewarm water
1 teaspoon granulated sugar

and stir until sugar is dissolved. Sprinkle with contents of

1 envelope Fleischmann's Fast Rising Dry Yeast
--

Let stand 10 minutes, THEN stir well; stir in lukewarm milk mixture. Measure into a large mixing bowl

4½ cups once-sifted bread flour

Make a well in the centre and add liquids all at once. Mix thoroughly, then knead slightly in the bowl. Cover with a damp cloth and set in a warm place, free from draught; let rise until doubled in bulk. Punch down dough, cover with damp cloth and again let rise until doubled in bulk. Turn out on lightly-floured board and divide into 3 equal portions. Knead each piece lightly and shape into a slim loaf

about 12 inches long. Place, well apart, on greased cookie sheets and with a pair of scissors, cut diagonal slashes in top of loaves, about 1½ inches apart. Let rise, uncovered, until doubled in bulk. Bake in a hot oven, 400°, for 15 minutes, then reduce oven heat to 350°, bake 15 minutes, brush with a mixture of 1 slightly-beaten egg white and 2 tablespoons water and bake until loaves are cooked—about 20 minutes longer. Cool bread in a draught, by an open window.





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What woman wouldn't thrill with pride to be able to say "I made it!" and what man could resist a second helping from this perfect dream of a cake! Coffee-flavored... flecked through with dark chocolate chips... spread billowy-deep with fragrant coffee frosting!

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MAGIC MOCHA CHIFFON CAKE

2¼ cups sifted cake flour
3 tsps. Magic Baking Powder
1 tsp. salt
1½ cups fine granulated sugar
½ cup salad oil
5 unbeaten egg yolks

¾ cup cold strong coffee
1 tsp. vanilla
3 ounces chilled semi-sweet chocolate, thinly shaved
½ tsp. cream of tartar
1 cup egg whites

Sift flour, Magic Baking Powder, salt and sugar into mixing bowl. Make a well in the centre of flour mixture and add salad oil, egg yolks, coffee and vanilla; mix these liquids a little with mixing spoon, then combine with flour mixture and beat until smooth. Add chocolate and beat to combine (a potato peeler shaves chocolate thinly). Sprinkle cream of tartar over the egg whites and beat until very, very stiff (much stiffer than for a meringue). Gradually fold

egg-yolk mixture into the egg-white mixture. Turn into ungreased 10" deep tube pan (top inside measure). Bake in rather slow oven, 325°, 1½ to 1¾ hours. Immediately cake is baked, invert pan and allow cake to hang, suspended, until cold. (To "hang" cake, rest tube of inverted pan on a funnel or rest rim of pan on 3 inverted small cups.) Remove cake carefully from pan and cover with a brown-sugar 7-minute frosting in which strong coffee is used in place of the usual water.

place on a rack over a cookie sheet so all sides are exposed.

Melt prepared fondant icing in the double boiler. Dip the melted fondant by spoonfuls and pour it over the cakes, covering tops and sides. The fondant that runs off can be returned to the double boiler and remelted. If the fondant becomes too stiff to run add hot water by the teaspoonful. Decorate cakes with bits of candied fruit, colored candies, chocolate or silver shot and nutmeats.

Fondant Icing

2 c. sugar
1¼ c. water
2 T. light corn syrup

Put in saucepan. Stir until sugar is dissolved over low heat. Remove spoon; do not stir again. Cover and boil rapidly 3 minutes. Remove cover and continue boiling until candy reaches soft ball stage. As candy cooks remove sugar crystals that appear on the sides of the pan with a wet cloth tied around a fork tines. Pour onto platter which has been dipped in cold water. Cool until the surface wrinkles when touched and the mixture feels only slightly warm to touch. Scrape fondant from edges to center of the platter with a wooden spoon. Continue working inward until white and creamy then knead with hands until smooth. Place in glass jar and set aside for 24 hours. Add flavorings or colors when melted for icing; stir as little as possible.

White Cake

2 c. cake flour
2 tsp. baking powder
¼ tsp. salt
1 c. butter
4 eggs
1½ c. icing sugar
2 T. orange juice

Sift flour, baking powder and salt together. Cream shortening; add the flour mixture gradually and mix thoroughly. Beat the egg yolks until light; beat in the sugar gradually; add the orange juice. Combine with the butter-flour mixture and beat thoroughly. Fold in the beaten egg whites. Pour into well-greased pan. Bake at 350° F. for 30 to 40 minutes. Store for one day before frosting.

A Correction

In the January issue of The Guide the recipe for Orange Bread was not complete. The ingredients should be as follows:

Orange Bread

1 medium orange
½ c. dates
⅓ c. walnuts
2 T. butter
½ c. hot water
1 egg, beaten
2 c. flour
¼ tsp. salt
½ tsp. soda
¾ c. sugar
1½ tsp. baking powder

Add ground-up whole orange, dates and nuts to hot water and butter. Add beaten egg. Sift dry ingredients; add. Bake in a 350° F. oven for 1¼ hours.

Sketch Pad Out-of-Doors

No. 1 of Series—by CLARENCE TILLENIUS

THE editor has suggested that I do a series of chats with readers of The Country Guide about sketching. This talk and those which will come in the following months follow no preconceived plan.

You are simply invited to accompany an artist as he wanders about the country, gathering material. Here we will stop to sketch a group of farm buildings, there, perhaps a herd of horses. Maybe we will not sketch at all, but only make notes in the sketch pad of the swiftly passing colors of a sunset, the smoky appearance of the horizon when the thermometer says 40 degrees below zero, the color of shadows in the moonlight. All of these things are of great importance to the person who wants to paint, and must be learned by constant observation. I am hoping that these jaunts will give you experience in really observing many things which you see from day to day.

The drawing accompanying is a simple sketch of a fence corner overgrown with grass. It has an added in-

terest because a fox had dug out a mouse's nest from the dead grass. It was natural then to add the fox as he must have stood when he passed by and smelled the mice in their hideout.

To be able to place an animal like this into a background, you must also be prepared to sketch animals whenever you see them. Never mind how little time there is. Get out the sketch pad and make some notes of his appearance... even if it were to be only two lines. Nothing else but practice will give you the ability to draw. And do not throw those notes away. As they accumulate over five, ten or 20 years you will have a priceless record of observation to assist you in giving your work convincing quality that all work based on truth must have.

It is a good idea too to keep a few loose-leaf notebooks (eight and one-quarter by ten and three-quarter-inch page size) to enter up your observations. If you have them all on loose sheets they soon become unmanageable. If you use loose-leaf drawing paper you can also make explanatory sketches to go with your notes.



Pick the Right Soap

Signposts to better buying

by MARGARET M. SPEECHLY

ARMED with the right kind of laundry supplies, you are in a position to wash clothes with the least expenditure in money and effort. However, nobody can tell you what to purchase because no two people have the same preferences or requirements.

It is safe to say that everybody likes to have a bar of good laundry soap for certain jobs. The many brands on the market can be sorted into two main classes. Some are "pure," some "built."

Pure soaps are made from the best grades of fats and oils, combined with alkalies so exactly that the soap is mild and harmless to fine fabrics and to the hands. Usually, bars made from pure soap are white, but not all white bars are "pure" soap.

Long ago, manufacturers found that some of the fats and oils (which are expensive) can be replaced with waterglass (which is cheaper). Waterglass has some cleaning power itself and is useful in dealing with hardness, but it renders soap strongly alkaline which makes it hard on woollens and colors.

Further, soap containing waterglass is able to hold more water than pure soap which increases the tendency of the bar to waste.

There is nothing on the wrapper to tell you what the bar contains, but if you notice a white, powdery coating on the surface of the soap, it is likely that waterglass is present. Unfortunately this does not show up until the bars have been on the shelf for a time.

Yellow bars are almost certain to contain rosin, a substance obtained from pine trees in the manufacture of turpentine. Rosin produces a lather and has some cleaning power of its own, but for getting out dirt it is not equal to pure soap.

If more than a certain amount of rosin is added to the soap, the product tends to be sticky. Like waterglass it is an adulterant, which replaces some of the more costly fats and oils.

Pass up dark brown bars because they are likely to be made from low-grade fats. Avoid highly colored soap, since dyes can be used to cover up inferior ingredients.

It is not economical to buy floating soap for laundry purposes, even though the brand is a good one. You may want it for the bath, but actually you are not getting good value because bubbles of air were blown into the mixture during manufacture, to make the cakes float.

Some brands contain naphtha and while the best do good work, their efficiency depends more on the quality of the soap itself than on the addition of naphtha. The quantity in each cake is very small and evaporation in storage may be considerable, so the amount that reaches the washing machine is not very great.

In buying, you need to decide whether the claims of special virtues are to be relied upon, or whether to be influenced by a favorite "clean smell." Naphtha is used not only in yellow bars but in some brands of white soap.

To get full value from any cake of soap, it must be used rightly. Never

put it straight into the washer. Even in chunks it will be wasted. People tell me they still do that sort of thing, regardless of the fact that no cleaning goes on until the soap is turned into suds.

Even in dealing with very soiled spots such as the knees and seats of play clothes or the collars and cuffs of shirts, it pays to melt soap and apply it with a brush. This allows it to penetrate the meshes of the cloth more completely than if the cake is rubbed on the surface.

"PURE" soap, beside being sold in bars, is made into flakes, chips (thicker than flakes), beads, granules or powder.

The thinnest flakes are generally made from high-class materials and are designed to dissolve quickly in lukewarm water, and what is very important, they rinse out readily in cool water. Buy some of these for cleaning your woollens and fine fabrics, if your water supply is soft.

For the general family wash, you need thicker flakes or chips, which perform well in very hot water. If you prefer beads, granules or powdered soap (not the same as soap-powders) mix it first with cool water to prevent lumps from forming in the washer.

"Built" soaps can be bought in many forms. These consist of pure soap combined with non-soapy materials designed to increase washing efficiency. These extra ingredients are not considered adulterants because they increase the cleaning power.

However, if too large a proportion of alkaline builders is used, the brand is a poor investment. There are some washing powders or soap powders on the market which may be wonderful for softening water but will shrink woollens, dim colors and send fabrics too soon to the rag bag. These are not to be confused with a high-grade built soap.

Save your purse and your clothing by purchasing a good "pure" soap and a reliable product for dealing with hardness. Or switch to a synthetic detergent (syndet) if your water is loaded with minerals.

There are great differences among syndets too. Some are designed for washing dishes and fine fabrics. Read the printed matter on the package before buying. Others are meant for heavy laundering or the general family wash. These are built or reinforced with alkaline materials to step up their cleaning power.

In a package of syndet, the amount of the special ingredient may be quite small, but the rest of the contents are not necessarily adulterants. They are required to enable the active ingredient to do its job.

Whereas in grandmother's day, one kind of soap did all the washing, you will remove soil more thoroughly if you arm yourself with several types of washday products. It may take time to find out which brands do the best cleaning job, and you will constantly need to check results because manufacturers change their formulas to suit available supplies.



When the recipe says "Canned Salmon"



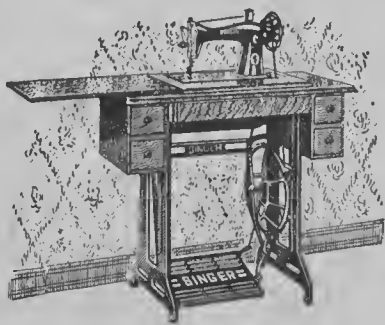
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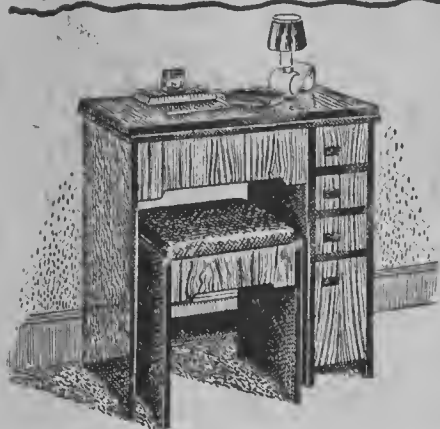
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Needlework Ideas

Items for busy fingers during winter months

by FLORENCE WEBB

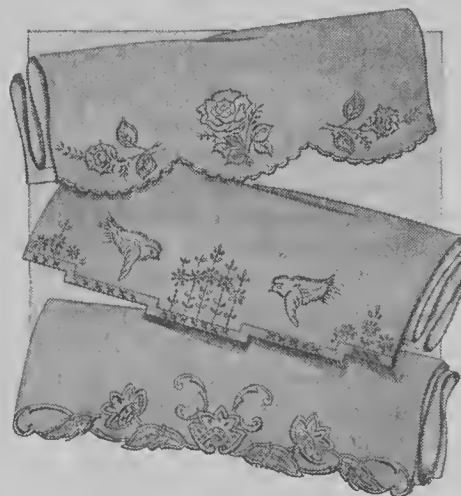
Scarf and Matching Socks trimmed with embroidery



Pattern No. K-121.

No need to tell you how many times you will wear this attractive sport set this winter. The scarf wraps cozily around your neck and the socks fold neatly over your boot tops to complete

your ensemble. Red, green or blue felts and embroidery details are attractive style additions. The pattern is No. K-121 and includes the instructions for both scarf and socks, price 25 cents.



No. T-156.

Pillow Case Transfer

Now that pillow cotton and towel-lings are plentiful again, you'll find these pretty designs delightful pick-up work. Nice in either white or colors. Another pretty idea is to combine two colors—such as pink and white, blue and white, etc. Sheet of transfers is No. T-156, price 25 cents.

Crusader Hood



Pattern No. K-92.

For sports, for school or business and just to make you look chic and cute, nothing is nicer than this fashionable knit hood. Pattern No. K-92, price 25 cents.

Luncheon Set

You can make single mats, or make a one place setting and add to the set gradually. Now that Xmas is over and the long winter evenings at hand, why not make the set for yourself? All one color thread can be used, but don't you think the two colors are charming? Pattern No. C-300, price 25 cents.



Pattern No. C-300.

Note correct number of article wanted.

Send proper amount in payment.

Address orders to The Country Guide Needlework Department, The Country Guide, Winnipeg, Man.

We Like a Dining Room

Some reasons for a personal liking for a dining room separate from the kitchen

by GERTRUDE McDANIEL

ONE of the improvements I insisted upon when we built our house was a separate dining center. For years I had been cooking and serving in the same room. I was convinced the extra steps, necessitated by a dining room, would be offset by the convenience and happiness made possible.

I was tired of having the men come in for meals, and after washing and combing (in the kitchen), sit around under foot while I did a few last-minute things to the meal. Always, there would be someone directly in front of the cupboard, another between the range and the dining table, someone in the way when I reached for an egg beater or potato masher. I learned to be dexterous in stepping over their clumsy work shoes, but after the meal was on the table, I didn't enjoy eating with a stack of pots and pans waiting before me, to be washed. I learned that, when a meal must be a bit tardy, having the dining table set and ready, is a silent inducement to patience on the part of hungry men. That could not always be accomplished, where I had to use the dining table for a working surface.

Perhaps this desire for a dining room is a carryover from my childhood. I cannot remember ever eating in the kitchen, nor eating without a tablecloth. No oilcloth for my mother! The table stood directly beneath the light . . . at first it was a hanging kerosene light, then a gas light, and later, electricity. Even when father was not at home, which was half the time, mother sat at her place at the end of the table nearest the kitchen, and the five children around the sides of the table. When father was home, nobody thought of touching the food, or implements for eating, until "Amen" followed the blessing.

There is always a feeling of oneness in a family, seated around a neatly set table; a feeling, that, no matter if all there is to eat, is beans, this is a time of day where each member is as important as every other member.

Laughter is not hampered by the sight of kettles and skillets awaiting the dishwasher. Children, I believe, are exposed early to good table manners, where the eating habit is one of ceremony, rather than haste.

Dining rooms serve many other functions to bind together individuals into one whole family. On winter evenings, the dining table serves as a central theme for games. Across one corner of the area, two members may be playing checkers, while opposite, others are engaged in monopoly, and along the sides, and ends, various interests, such as embroidery, painting, or reading are enjoyed by different ones. The overhead light, shining down on all, presents a picture of unity and happiness in family life.

In my childhood home, father and the children gathered around the table, evenings, with books, pencils, and paper. Even the smallest member, though he sat in his highchair, had his own pencil. That was one thing we could always depend upon getting off the Christmas tree! A long, yellow pencil, with eraser, for each child. Immediately after gifts were distributed, father took his pocket knife, and carved an initial along the side of each pencil, and there was never a question, nor a quarrel, as to whether we had our own, or a brother's or sister's property. Some evenings, mother, too, sat at the table, and read, and many evenings, she sat in the rocker, back from the table, and just enjoyed being near her family.

I like a dining room, whether, as at present, it serves only four, or as during the summer when the children and grandchildren gathered for a family reunion, 29 places were set. A few extra leaves in the table, a long bench on either side, two tablecloths, instead of one, a few more potatoes, another loaf of homemade bread, a larger bowl of gravy, and much, much laughter . . . show me the kitchen that could handle so much living, gracefully.

A Handy Desk Calendar

It may be a simple thing but as a reminder of important events and duties its value is great

by LOUISE PRICE BELL

MOST women have a special notebook in which they keep the birthday and anniversary dates of friends and relatives because they intend to send these folks a card, or gift, when the day draws near. But notebooks and memo slips have a way of getting lost and here's where an inexpensive desk calendar comes in handy—the kind that has a blank sheet for each day of the year.

If you make it a point to enter all the birthday dates on the sheets of this, you'll know the minute you flip the page that "today's the day." If friends live in a distant town so that gifts or cards should be mailed a few days ahead of time, then your entry should be made with the notation: "Peggy, April 10" on the April 7

page. This also gives you time to purchase a gift or card if you have none on hand.

In many homes, the lady of the house is the one who is supposed to keep track of the time when payments come due. It's not easy to remember when insurance policies, taxes and church pledges should be paid, when the car or home insurance should be renewed. It's even hard to remember the dates when Bobby's braces are to be tightened or when the various family members are due for dental and physical check-ups. When you are scheduled to preside at the directors' meeting of the Children's Home, speak at the missionary meeting, or give a book review at your church group luncheon, a reminder on your

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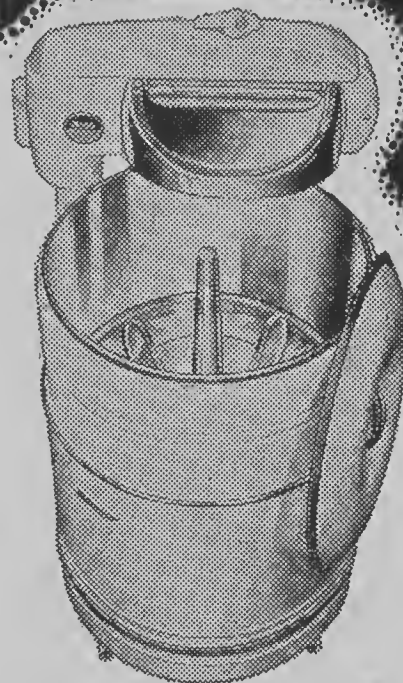
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Wallpaper

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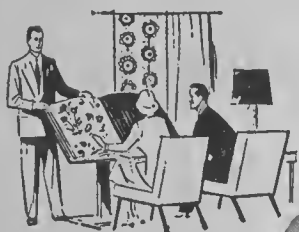
The place to begin obviously is with your walls because, as any interior decorator would tell you, walls are the beginning of any decorative scheme. You can give your walls warmth and personality plus drama in boldness of pattern and contrasting colour. You can do all this simply, easily, and economically with wallpaper. You'll hardly believe it until you see what new life and beauty wallpaper can bring to dull drab walls.

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desk calendar will be most welcome. As soon as you know the date you are to participate, make an entry a few days ahead of time, then you will have plenty of time to prepare for the affair.

Do you begin to see what very big dividends in well-oiled schedules your little desk pad will promote? How it can go a long way toward smoothing out the kinks in household and family routine and in keeping things well in hand? Here's the way to start:

Pick some morning when you won't be interrupted for an hour or so. Dig up all the policies, tax statements, etc., so you can ascertain exactly when all are due. Then, on sheets dated a few days before each date, neatly pen the due date on the page of your pad so that when you turn the page one day, you'll see it staring up at you. Of course, if payment is made by cheque and right in your home town, it can be noted on the very day. But, it's wise to do things a bit ahead of time and to have the notation made accordingly.

Every home will have different days which shouldn't be forgotten, but be sure you overlook none. When some birthday or anniversary date (other than the ones you copy from the birthday book after you run it down and find it in the most tucked-away

spot) comes to your attention, jot it down.

You'll find that other family members will form the habit of using your pad, too, for dates they want to remember. Jack's football pal's birth day will pop up some morning when you flip the page . . . Nancy's notation "Cosmos for Mrs. Gray" because Nancy heard Mrs. Gray say they were her favorite flower and she knew the time they would be blooming. So why not start a "pad-fad" for each of your teen-agers to keep in their own rooms? It will make them feel important; it will be the starting of a good habit. Why not put a pad on hubby's workbench, if he hasn't a desk at home? He will appreciate it, and it will help him to remember his dates, too. A calendar such as this is a good idea not only for the lady of the house, but for every member of the family.

This all sounds too simple to be as important as it is. But once you purchase a pad, make your entries, and use it for a few months you'll find that, like many simple things, its value is all out of proportion to one's expectations. And you'll develop a new poise, knowing that there won't be any mad rushing about the last minute to juggle plans because some payment or appointment or date was forgotten until that proverbial "last hour."

A Window "Cup Garden"

Children particularly will find much can be learned of nature's ways by watching seeds grow

by PAUL HADLEY



A child learns many of nature's ways by watching seeds planted in paper cups.

THE sprouting of seeds into new life is always interesting to watch, and much can be learned of the ways of nature by planting a little "cup garden" in the window. Children particularly will find such a tiny garden of great interest. Watching the sprouting and growth of the various kinds of seeds will stimulate an interest in nature study.

The cups used in making the "garden" are ordinary flat-bottomed paper drinking cups, such as may be purchased at any five-and-ten-cent store for a few cents a dozen. A dozen cups should be sufficient for most purposes.

The cups are filled with light, sandy soil, and set in a warm, light window. Seeds planted in the garden should be of some quick-sprouting plant, such as beans, corn, pumpkins, etc. Several seeds of each kind should be planted in each cup; and two or three cups

of each variety should be planted, as the swelling and sprouting of the seeds will be carefully watched, requiring the "digging up" of the seed in question. Daily examination of the seeds will show the rapidity of the growth of the roots of the various species. Beans will show the most rapid changes, although the other kinds of seeds will reveal their own characteristics.

A bean, for instance, will start swelling almost at once when it is put in the soil. The third day will show the tiny rootlet protruding from the skin. Daily growth is rapid, and by the fifth day the tap root will be several inches long, with many lateral rootlets springing from the stem of the tap root. The root systems will be found to be well developed before the young plant breaks through the surface of the soil.

Contest Games

Useful as starters to a party

by GRETA G. CARROLL

HERE is a little writing game or guessing contest such as helps out entertaining at an afternoon tea or young people's party. All the questions can be answered by names of things found on an ordinary dining table.

1. An important baseball player (pitcher).
2. Found at home base (plate).
3. Another way of saying, "Look up" (see up—c-up).
4. What a sailor is often called (salt).
5. A term used in referring to the clergy (cloth).
6. Used by the golfer when driving off (tee—tea).
7. Found where two roads meet (fork).
8. Used at Christmas time (crackers).
9. Windows have a lot of it (glass).
10. What game is played in an alley? (bowls).
11. Given at the twenty-fifth wedding anniversary (silver).
12. What the polite young boy said to the elderly man at the other end of the crosscut ("Saw, sir!"—saucer).
13. What a young couple does in the moonlight (spoon).
14. What an earthquake makes (a jar).

In another longer but quite as easy contest each answer is the name of a well-known tree.

1. A tree that is well groomed (spruce).
2. Important to the teen-ager (date).
3. Used by fortunetellers (palm).
4. An officer in the church (elder).
5. To waste away in grief (pine).
6. A sandy, open shore (beach—beech).
7. A mythical tree mentioned in the Bible (life).
8. Associated with the Father of his Country (cherry).
9. To bring together or unite (pair—pear).
10. Used for chewing (gum).
11. True and upright as the carpenter says it (plumb—plum).
12. Left in the fireplace (ash).
13. A body of water (bay).
14. Lovely girl (peach).
15. Eaten for breakfast (orange).
16. Used in plastering (lime).
17. Emblem of our country (maple).
18. A county in Ireland (cork).
19. What we need when we write down a mistake (rubber).
20. Favorite home-grown pie fruit (apple).

Sometimes it is friendlier and helps introduce strangers if the guests work in pairs on the puzzles and a small prize such as a lead pencil, washcloth, or cake of soap is given to each of the winning pair.

Plants Lend Cheer

Foliage to lend attractive touches to your rooms

by RUBY PRICE WEEKS

IT doesn't matter where in a house plants are, one always has, upon entering that room, a feeling that those living there are real home lovers. Plants may be in a kitchen window, in the living room, the hall or on a stair landing. Of course those which bloom are the loveliest though there are many which are attractive for their foliage only. Among them are ferns, the various cacti, the hardy sanseveria and trailing vines, including ivy, wandering jew, philadendron, and grape ivy, sturdiest of them all.

If a person is smart enough to bring in some of her geraniums in the autumn, and she has a south window in which to keep them, she may have plenty of gay blooms by now, or at least, very healthy looking plants. They are particularly appealing in a room where one spends much time as it's fun watching their development.

Most plants do well in a window where there's plenty of light though the direct sun's rays are not good for some, as the African violet. Plants in a window very near the street can shut off the view of the curious passer-by, too. At a time of year when no flowers are available for use as a centerpiece on the dining-room or

breakfast-nook table, a small flowering plant, as a begonia or geranium, adds a note of interest, particularly if picking up a color in the china.

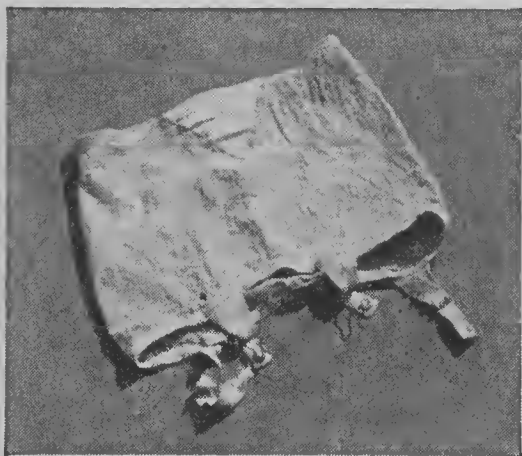
Different plant arrangements may be made in a home, depending upon the plants and what one has with which to work. Sometimes a wire plant stand may be brought in from the porch and used in front of a hall window thus transforming that passageway to a room of real charm. Or, if a window isn't too large, glass shelves may be fastened up with brackets making a really beautiful spot from both outside and indoors, a place for grouping both flowering and foliage plants with an occasional bit of colored glass so that the light filtering through produces an interesting effect.

THERE are several water-grown vines, and the most surprising of all is the sweet potato which keeps people guessing as to what it is. One which has been kiln dried will never sprout and the prettiest grow from the rich yellow yam. This has purple stems and veins which are an interesting contrast to the green of the leaves. Cut the potato in two and place, flat

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side down, in a flower bowl or wall pocket. The container must be deep enough so that about one-half of the potato is under water.

For an unusual kitchen decoration, cut a carrot in half, hollow out the end leaving the main part intact. Hang it in a window with the stock part down and keep the hole filled with water. Soon the leaves will start growing and curl upward resulting in a hanging fern. Carrot may be used as another kitchen decoration by cutting two inches from the upper part, standing it in a dish of water and fern-like foliage will soon start growing.

If a person loves plants and flowers yet has little time to care for them, her best solution is only the hardier varieties which need little care. Among them are the aspidistra, sanseveria which will grow in either dirt or water, the water vines, and grape ivy which is not only almost foolproof but requires the least light of any of the vines. Many of the vines, such as ivy, philadendron and wandering jew are very effective in colored glass bottles which are designed for window sills. If the water is changed, the roots show up prettily through the glass.

Household Hints

To get the second half of snap fasteners in place rub chalk over the knob of the attached stub. Place the other part of the garment carefully over it and press down on the knob. A small chalk mark will be left where the spring half of the fastener should go.

To sew on narrow rickrack or braid that catches in the pressure foot cover the braid with a strip of waxed paper. This holds it in place and you can stitch right down the center. The paper tears away easily.

For a few drops of lemon juice don't cut the lemon in half. Prick one end with a fork and squeeze out the required juice. Then put the lemon away for future use.

To frost cupcakes quickly top each cake with a marshmallow half before baking. The marshmallow will melt as the cupcake bakes.

Keep a large salt shaker filled with a mixture of salt and pepper close to the stove. It saves time when seasoning vegetables, gravies, eggs and meat.

To keep tart shells from shrinking as they bake place a cut round of pastry over the back of each muffin or custard cup. Flute, prick and bake as usual.

If the soup seems too salty add one or two sliced raw potatoes and simmer for ten minutes. Remove the slices before serving.

Apples won't crack as they bake if you remember to peel a one-inch band from the middle of each apple. Stuff and bake in a moderate oven.

To cut a meringue-covered pie while hot. Dip a sharp knife in hot water and mark off each serving. Cut through the meringue only. Cut again when the pie is served.

Press an old tape measure lightly between two sheets of waxed paper with a hot iron. It will stiffen up like new.

Made to Grow In



No. 3675—This girl's two-piece suit features a short boxy jacket with set-in sleeves and a round collar; the six-gore skirt is flared. Skirt and jacket have pockets to match. An idea for making over an outgrown coat. Sizes 7, 8, 10, 12 and 14 years. Size 10 jacket requires 2 yards 35-inch material or 1½ yards 54-inch with or without nap; skirt 1½ yards 35-inch or 1½ yards 54-inch. Price 35 cents.

No. 3679—Overalls and jacket to match or contrast for a little boy or girl. Transfer included. Easy to use for make-overs as the overalls have bib added as an extra piece and there are no cuffs. Add a cowboy design to the pockets or at the center back of easily made jacket. Sizes 1, 2, 3, 4, 5 and 6 years. Size 3 requires 1½ yards 35-inch with or without nap for each of overalls and jacket; or 2½ yards of one material. Price 35 cents.

No. 3666—A school-girl's one-piece dress to make, or remake, of one or two colors. Detachable collar and dickey and tie-on peplum included. Bodice has set-in sleeves and fitted waistline; flare skirt is 119 inches wide at the bottom. Sizes 7, 8, 10, 12 and 14 years. Size 10 requires 1½ yards 35-inch for bodice and bias bands on skirt, 2¼ yards contrast; or 3 yards 39-inch all-in-one material. Price 35 cents.

State size and number of pattern wanted.

Write name and address clearly.

Note price.

Patterns may be obtained from your local dealer or order direct from Country Guide Pattern Service, Winnipeg, Manitoba.

No. 3647—A girl's sundress or jumper to be made of two materials. Pattern includes blouse and transfer for applique. Skirt flares prettily from a fitted waistline with or without ties. Underarm closing. Blouse has puffed sleeves, a round gathered neckline with or without a collar, and buttons down the back. Sizes 7, 8, 10, 12 and 14 years. Size 10 requires 2½ yards 35-inch material, ¾ yard contrast; blouse 1½ yards 35-inch. Price 35 cents.

No. 3725—Make this dress of one or two fabrics and trim with lace, braid or bias binding. Bodice buttons down the back. May have ties extending from the two front darts, three-quarter or short puffed sleeves and a square or collared neckline. Sizes 2, 3, 4, 5 and 6 years. Size 4 requires 1½ yards 39-inch material and 1½ yards contrast; or 2½ yards of 35-inch all-one-color material. Price 35 cents.

No. 3726—This little girl's dress features ruffles at the shoulders and hem, a round neck and full gathered skirt. Pattern includes a pinafore with its own shoulder and hem ruffles, a shaped neckline and self belt. Sizes 1, 2, 3, 4, 5 and 6 years. Size 3 dress requires 1½ yards 35-inch material; pinafore and ruffles for dress 2¼ yards 35-inch striped material. Price 35 cents.

No. 3083—Boy's jacket with slacks to match or contrast. The jacket, which can be made over from a coat, features a notched collar, set-in sleeves and two breast pockets. Trousers have a fly front and elasticized waistline to keep them in place. Sizes 1, 2, 3, 4, 5, 6, 8 and 10 years. Size 4 requires 1½ yards 35-inch or 1 yard 54-inch even plaid material for jacket; 1½ yards 35-inch or ¾ yard 54-inch for slacks. Price 25 cents.

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Flying Animal Doctors

Western New South Wales, Australia, makes a few veterinarians go a long way by shuttling them about in aircraft

by ANGUS BRAMMALL

BELIEVED to be the first of its kind, a flying veterinary service is being established for the 18 million acres comprising the western division of the Australian State of New South Wales.

Australia was the first country in the world to have a flying doctor service for its people. The owners of the 5,500,000 sheep, 45,000 cattle, thousands of horses and other livestock, pastured in this area of scattered homesteads and big buildings, now are to have their own airborne advisers.

The plan will be financed by a levy on stock of four to eight cents a head on cattle and one-half to one cent on sheep.

The more thickly settled and better watered eastern part of New South Wales supports 44,900,000 sheep and 3,208,752 cattle. It has no serious shortage of veterinary officers. But where the plains behind the Great Dividing Range slope back toward the continent's center settlements are often hundreds of miles apart.

War's manpower demands more than halved Australia's pool of veterinary students, and indications are that it will be many years before the

supply catches up with the requirements.

Eleven stock inspectors appointed by the State Department of Agriculture formerly attended to the veterinary needs of the pastoral districts in the western division of New South Wales. But for years now there have been only three inspectors, and they have been fighting a losing battle against a too onerous work schedule.

The flying veterinary service is intended to change that.

Roads in the far west are often poor. But the country is mostly flat or undulating and there are many emergency airfields used by private plane owners and the flying doctor service.

Two flying veterinary officers are to be appointed. Existing Tiger Moth aerial taxi services will carry the veterinary surgeons on emergency trips to distant homesteads or townships. New South Wales Agricultural Department planners think the complete cost of the service will not exceed £A4,000 a year.

Rangers familiar with livestock and western conditions will be appointed in other districts for routine work, and the newly organized service is expected to provide a 100 per cent effi-

cient veterinary umbrella for the sprawling west.

Pleuropneumonia, a highly contagious cattle disease, is endemic in parts of Queensland, and with the movement of vast herds from the northern state into New South Wales, there are occasional outbreaks there. Infected animals are destroyed immediately and others vaccinated. The flying veterinary service will enable better control of any outbreak.

The veterinary officers and rangers will also keep a close watch for signs of lice infestation, tick attacks or plant poisoning. Lice cause severe wool damage and poor health in sheep. Ticks and toxic plants may cause quick death.

The originator of the flying veterinary scheme is the New South Wales Agriculture Department's Chief Veterinary Officer, Wm. L. Hindmarsh, B.V.Sc., M.R.C.V.S., a man who believes in applying modern methods to one of the states oldest and important industries.

He says: "I feel that good use can be made of air transport in helping western stock owners to maintain the health of their herds and thus help step up livestock production."

Australian Pork

Continued from page 13

shortest possible time, crossbreds have proved the quickest doers on this property. Every effort is made to produce the baconer within 25 weeks and to date this limit has not been exceeded, the weight then being from 195 to 210 pounds, or 136 to 150 pounds dressed weight.

Maura piggery is doing very well with the Large White and the Berkshire, but Bajool finds on the coastal district the Berkshire-Tamworth cross is proving most valuable. This piggery uses the Tamworth, Canadian Berkshire and Wessex Saddleback, making crosses of Tamworth and Berkshire; Berkshire and Tamworth; Saddleback and Tamworth or Berkshire.

In all cases feeding has been carefully studied, grain sorghum from the Corporation's Peak Downs properties being the principal ingredient.

The dry feed ration for boars fully grown and in service consists of: grain sorghum, 80 per cent; sunflower meal, five per cent; meat meal, five per cent; alfalfa chaff, nine per cent; lime, one-half per cent; and salt, one-half per cent; plus regular green feed such as alfalfa sorghum or such other as may be in season.

Special half-acre paddocks are given to each boar, which are changed every two or three weeks. Each boar has the use of a paddock when being spelled, sows being taken to the boar when necessary, after the weaning of piglets.

Boars not required for stud are castrated at the age of four weeks, and stud boars are not used until at least eleven months of age.

Young boars, however, are first introduced to a mature sow at the age of eight months, but only for a very short spell. A month later, they are again put to a sow, this time for a

whole day, given a couple of introductions, then allowed to make a mating. These introductions ensure that the young boar does not get damaged in any way. After being allowed a mating to a mature sow, the boar is available to be put to gilts, by this time being a year old. Ten to twelve sows are allocated to a boar, using a boar for approximately two years.

Sows are usually mated on the second day of the heat period, which normally lasts for two to three days and should recur every 20 or 21 days till pregnancy is achieved. One complete service, taking place in the cool of the morning and before feeding, is generally found sufficient. Litters to date at Bajool have averaged 7.5, with two litters being aimed at each year.

Brood sows after mating are placed in 20-acre paddocks to graze and are fed on a ration of up to three pounds per sow of: grain sorghum, 80 per cent; sunflower seed, five per cent; alfalfa chaff, nine per cent; meat meal, four per cent; lime, one per cent; and salt, one per cent.

Six weeks prior to farrowing, sows are put into observation paddocks for three weeks, then drafted to the farrowing pens to become both used to these surroundings and known to the pigman. While in the pen, sows are fed strictly on a 2½-pound ration of the above mixture twice daily. Plenty of sawdust bedding is provided, being changed two or three times per week.

Immediately after farrowing, sows are given clean water only, in order not to bring on the milk too quickly, and the first meal given consists of not more than one pound of this same mixture, in water.

The pen is then cleaned out, flushed with high iron content bore water, and given fresh bedding. Soil mixed with iron and copper sulphate is placed in the pen.

Creep feed ration for suckers, intro-

duced at about ten or 14 days, is always kept fresh and wholesome, thus avoiding digestive troubles arising from sour or fermented feed. The usual ration given is crushed wheat, with a little meat meal, lime and salt added. Dried separated milk, when available, is also given. Creep-feeding of course, proves an excellent method of providing a food supply for the litter which cannot be interfered with by the sow.

That it is not intended to use more than 50 pens at each piggery for the farrowing of a maximum 200 sows may at first appear unworkable; but due to sow rotation, no difficulties are experienced.

Sows and litters are turned out into paddocks when the weanlings reach the age of three weeks. Here they remain until the litters are six weeks old. They are then moved into a larger five-acre paddock with other sows and litters under observation, and isolated. Special notice is taken here for any early troubles and poor doers. Such are placed in another paddock after weaning.

Sows are taken from their litters in this paddock and placed in the boar paddocks, thence back to the dry-sow paddock.

Litters are now graded and placed in store paddocks, being worked around from paddock to paddock in which 20-bag self feeders and automatic drinking bowls are installed, and fed on a dry ration. At 130 pounds stores are placed into first fatteners' pen, at which stage pumpkin and sweet potato are added to the ration. At 170 pounds pigs are placed in yet another paddock for topping, sunflower meal now being omitted and meat meal added.

The Corporation has recently invested in some good boars from leading studs, so good results can be expected as far as quality is concerned.

We Build a Six-Room House

TO have sufficient money to have a contractor build a house for you—to move in when the last dab of paint is dry and the last drape hung, would be an ideal state of affairs. But that is not the way we are building our six-roomed house, and it is not the way that hundreds of other young couples in British Columbia are building their homes. They are cutting down trees, grubbing out stumps, and building houses. What with the shortage of materials and skyrocketing prices, they are not building them in a month or even a year but they are getting them built and the whole family is having fun while they work together.

Have you ever gone for a walk or a ride on a week-end or on a summer's evening that you haven't seen several Jacks and their Jills working on a house? Very likely Jill had a couple of rips in her slacks because she didn't drive that last nail in quite far enough. If you had stopped to watch, you would have seen the small boys of the family making the best little boat that ever sailed a rain puddle, out of a leftover piece of board. And you would have seen the small girl making a wig for her favorite doll out of the long curly shavings that fell from her father's plane.

You can build a house yourselves. We have one as evidence that it can be done. It will mean long hours of hard work when you might rather be out trying to catch that elusive salmon or taking in the latest movie. But there is a great satisfaction in seeing your house grow day by day and to know that you are building a home in which you can laugh and love and live.

We have had many and varied experiences since we cut down our first tree. One of the neighbors came along that day. He laughed in high glee at the sight of a couple of city slickers cutting down a huge fir tree. There have been times when we have hung up trees but that one fell exactly where we wanted it to. Our stock rose then and there. We have found him to be a good friend on many occasions.

We weren't exactly Babes in the Woods. My ability with a hammer and saw dates back to my early childhood when I was the little shadow of my much older brother. I've always liked to make cupboards, and tables, and once I even made a bed. Father had done considerable carpentering but had never attempted a house of quite

Like so many others in this age of high costs — a bit at a time

by NORMA ARISS



We are proud of our fireplace.

such large proportions on his own before.

WE needed six rooms. Our family consists of father, mother, that is me, a middle-sized boy, and a small-sized girl. There is also a black Labrador dog, and Clancy, who is just a cat but a well-behaved cat in her own sort of way.

We lived in Vancouver during the war years. My husband is very fond of hunting and fishing, and so we spent two holidays at Campbell River, on Vancouver Island. We fell in love with the scenery, and saw that Campbell River, although small at that time, had possibilities. We bought ten acres of heavily wooded land with a lovely spring-fed creek running through it.

Campbell River is known the continent over as a hunting and fishing paradise. But alas, poor father, since we live here, doesn't seem to be able to find as much time for hunting and fishing as he would like. However we have our scenery always with us and we have never been sorry that we purchased our piece of wood land.

The evenings of the last winter that we spent in Vancouver were spent poring over house plans. None of them were exactly what we wanted and so we drew and re-drew our own. When we finally thought that we had it just right, we drew all the furniture in to scale and found that we couldn't shut the bathroom door, that the living room was a foot too narrow, and the dinette was two feet too short. And so we drew and re-drew until we were satisfied.

All our timbered wealth was a hindrance. The land had to be cleared of trees, stumps, and rotting logs before the building could commence. The labor was great and the progress was slow. There was compensation in the pile of stove wood and the pile of logs to be used in the building of the garage.

We cleared a small corner of our lot with the help of a bulldozer and then built the garage and workshop out of the logs that we had cut down. We lived in this while we cleared more land and worked on our dream house.

But all your time can't be spent on making a dream come true. Father has to carry on his plumbing business and mother has to weed that garden, and pick those strawberries for the locker, and can those beans, and make over auntie's last year dress for sister, and put patches on the knees of Junior's pants because he does like to play marbles.

The land was finally cleared and the basement dug—with a pick and shovel because they ran into hardpan. The foundation was poured, and then the house began to take shape and the roof was on. We did have some help from our kind neighbors with some of these jobs that were too heavy for us to do alone. The winter came with lots of cold and many feet of snow and there weren't many spare hours. But spring came with longer daylight hours and the house grew board by board. The windows were in, the partitions were in and the wiring was done for the electric lights. Another winter came—colder than the last and we realized that the house must be insulated. Spring came again and our goal seemed closer when we started to put on the gyproc sheets.

Father had built chimneys but he had never attempted a fireplace. But we are proud of our finished product. We put a heatilator in so it not only looks well but works well.

Since father is a plumber, the plumbing was one of the simplest of jobs. I find plumbing a little beyond me but Junior loves to help when there are things like that to be done.

We had a carpenter build the kitchen cupboards. We had neither the time nor the proper tools to make this a simple job. They have been one of the most expensive items in our building but after all they are my workshop. I think that we planned them just right. They are convenient to work at. Wedding presents that have been packed for over 12 years for lack of cupboard space have finally come into their own and have a home.

We made one mad dash to move in before Christmas. With guests coming and a perfectly good fireplace to hang stockings on, we couldn't think of staying in our log cabin any longer. It had sheltered us from many a storm but we weren't sorry to leave it. We moved in on the Saturday before Christmas and the stockings were full to overflowing on Christmas morning.

A house that has been built by someone else must be very impersonal. This one is full of memories. We know every nook and cranny. There are the dinette windows that father got in exchange for converting a ship's lantern into a hall lamp, there was the day that Junior tried to play hookey so that he could help lay the floor, and

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the day that I spent slicing concrete for the chimney base and the evening slicing cake for the P.T.A. party.

There are some memories that we could have gotten along without quite nicely. Like the never-to-be-forgotten day over two years ago when it was pouring rain and the wind was blowing seventy-five miles an hour. I looked out the window and saw sections of our recently applied roofing sailing through the air. I had to go to the neighbors about a quarter of a mile away to send a message to father to come home quickly and save our roof. I had to carry sister because she couldn't stand against the wind. When father finally got home, he made the air blue with the things he said about the sou-easters that blow here occa-

sionally. But the sun shone again and the damage was soon repaired.

Oh, there is a lot to be done yet. There is trim to be put on and painting to be done. The two rooms upstairs are only framed in and the front porch is still to be put on. There is a cupboard to go here and another there. I want twin wood boxes and I'd even like a what-not in the corner of the living room between the windows. I still haven't a place to put mother's antique tray or a place for that perfectly lovely rose bowl that someone gave us for a wedding present.

I'll admit that there are faster ways of building a house than by doing it yourselves. But as a spare-time hobby it pays big dividends.

The children love the country. Sister

goes into raptures over the trillions of trilliums that carpet our woods in the spring. There is no finer place in the world on a hot summer day than the paddling pool in the creek. Mechanical toys stay in the toy box until we finally give them away to the Red Cross while wonderful creations are made from bits of board.

The spirit of our much vaunted pioneer ancestors is not dead. True, we have a Ford of ancient vintage instead of a covered wagon, electric lights instead of a candle, and modern plumbing instead of a path to the creek, but the spirit is still the same. We have hewn a clearing from the forest primeval and with our own hands we are building a six-room house.

Damaged Grain for Livestock Feeding

A recognized authority advises on the feeding of damaged grain

by K. RASMUSSEN

CONCERN over frozen or damaged wheat is not new, and means of using such grains have been under study by the Experimental Farms Service since 1891. In the 1893 report from the Experimental Farm, Brandon, Man., the superintendent, Mr. Bedford, made the following statement: "Fortunately, the crops in this province have escaped injury from frost during the past two years, but in case of injurious frost occurring at any future time it is well for the farmer to know that prime beef can be made from even badly frozen wheat, and that he is not compelled to sell it at a sacrifice as is so often done."

While the experiments, on which this statement was based, were somewhat limited, work that has been done from time to time through the years has continued to give support to the statement. Today the statement can be broadened considerably, and it can be said that frozen wheat can form a satisfactory feed for all classes of stock when fed in properly balanced rations. We can go even further and include other forms of damage, and make the general statement that, with few exceptions, grains have some feeding value as long as they are palatable to livestock.

Minor practical exceptions to this general statement include grains that have been treated with poisons, grains containing ergot, grains that have developed spoilage with the botulism bacteria, and flax that has been subjected to frost before reaching maturity. This latter grain may contain prussic acid in high enough amounts to make it unsafe for livestock. Other grains do not become dangerous to livestock by direct action of frost.

When we try to discuss the value of damaged grain as a livestock feed, we are faced with the difficult problem of defining the term damage, or the extent of the damage. Establishing a set of "damage" grades would be almost impossible, and yet without some such system it is not possible to be clearly descriptive and tell a simple story on the value of damaged grains for livestock. At best it will have to be in broad, general terms.

We might say that damaged grain is any grain that does not meet the top grade of the standard for which the grade is established. For example, No. 4 wheat is damaged to a certain

extent for flour making. However, it might have as high a feeding value as No. 1 wheat, so that from the standpoint of a livestock feed it would not be classed as damaged. No. 1 feed wheat is not considered damaged from a feed standpoint, but has no rating as a milling wheat. Wheat that is tough or damp is damaged from a milling standpoint, but tough wheat may be as good as hard wheat for livestock feeding.

The first recorded studies, in Canada, on the value of frozen wheat for livestock came from the Experimental Farms, Brandon, Man., and Indian Head, Sask., where as early as 1891 frozen wheat was being tested as a feed for fattening cattle and for swine. The most recent work reported was in 1951 with swine at the Experimental Farm, Lacombe, Alta., and with poultry at the Experimental Farm, Brandon, Man. During the intervening years work has been done at many eastern and western farms, and at universities, with all classes of stock.

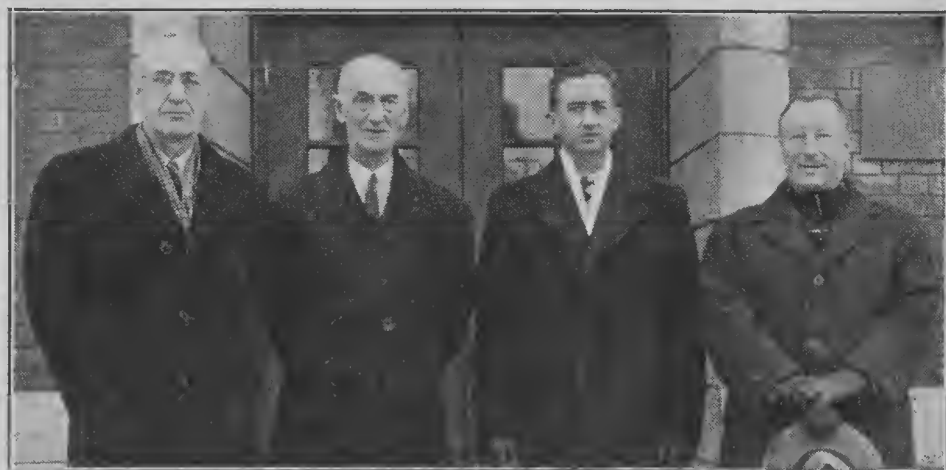
The general conclusion drawn from the results of the various trials is that weight per bushel may serve as a useful partial guide to estimating the feeding value of frozen wheat in comparison with sound wheat or barley. That weight per bushel may not be an exact evaluation, and other factors affect the results is shown by the results of the recent work at Lacombe and Brandon.

The Lacombe trial compared 60, 50, and 40 pounds per bushel frozen wheats, and No. 1 feed barley, as a

feed for growing-fattening hogs. The wheats and barley were in each case combined with oats on a 60 to 40 basis, and with a protein-mineral supplement to balance the rations. All lots were self-fed, from weaning to market weight. The average daily gains, in pounds, from the various grains were: barley 1.51, 60-pound wheat 1.43, 50-pound wheat 1.51, and 40-pound wheat 1.44. The pounds of feed required for each 100 pounds of gain were: 413, 419, 397, and 479 in the order of grains given above. These data indicate that the 50-pound wheat was equal to 60-pound wheat and No. 1 feed barley. The 40-pound wheat produced very satisfactory gains but had a lower feed value per pound.

THE 1951 Brandon experiment was conducted with pullets and was the first experimental work in Canada with frozen wheat for poultry. In this experiment, with 200 pullets per lot, sound wheat, weighing 62 pounds per bushel and with a protein content of 16 per cent, was compared with frozen wheat weighing 43 pounds per bushel and with a protein content of 13.2 per cent. Wheat constituted a high proportion of the total grain ration, so that possible differences would not be covered up by other factors. The birds receiving frozen wheat produced as many eggs per bird as those receiving sound wheat.

While greatest attention has been given to frozen wheat, other grain crops also suffer frost damage, and frozen barley and oats may be re-



These four men are doing their part in hammering back the northern fringe of agriculture. They are, left to right, E. C. Stacey, Superintendent, Experimental Station, Beaverlodge, Alberta, and three officers in charge of district experimental substations; J. W. Abbott of Whitehorse in the Yukon, W. J. Lowe of Fort Vermilion, Alberta, and J. W. Gilbey of Fort Simpson, N.W.T.

duced in feed value to a greater extent than wheat. This arises from their higher fibre content which is increased proportionately more when frost damage occurs than is the case with wheat. Therefore, in evaluating frozen barley and oats, the weight per bushel should be given careful attention, as it is a more accurate measure of feeding value for these grains than for wheat.

Another serious form of damage to grain is that caused by excessive moisture. Considering the frequency of occurrence of this condition, it is surprising that no research work has been done to determine the extent of damage caused by heating or molding of tough or damp grain. Excess moisture in itself does not affect the feeding value of grain other than to the extent that it decreases the dry matter content per pound of grain. The damage comes from the heating or molding resulting from the excess moisture, but, unfortunately, little is known about the effect of this type of damage on feeding value.

It can be agreed that moldy grain is less desirable than sound grain for livestock or poultry feeding, but there is not the same agreement on whether it is a safe feed, or what its relative feeding value is. It can be said that not all moldy feed is unsafe, and moldy feed is not equally dangerous to all classes of stock. The writer has seen piles of soft corn, i.e., high moisture corn, literally black with mold and yet being consumed by beef cattle with relish, and producing excellent gains. Most feeders, at some time or other, have fed grains containing some mold without serious

results. On the other hand, there have been reports from time to time that moldy grain has caused death losses in livestock and poultry. It is believed that in such cases it is not the mold itself that has caused the trouble, but the associated presence of the organism that causes botulism. This is relatively rare in grains but may occur at times, and, unfortunately, cannot be determined by visual examination.

Judging from various written reports, the general opinion seems to be that cattle are less sensitive to mold in grain than other classes of stock are. Horses seem to be most easily affected and sheep also are relatively sensitive. Swine appear to be able to handle moldy feed fairly well. Even when mold occurs and is not dangerous it may result in the grain being unpalatable, and some difficulty may be encountered in getting stock to eat it. This may be overcome in part or wholly by mixing the spoiled grain with sound grain, which practice might also reduce any toxic effect that is present in the spoiled grain.

The lack of positiveness in the information on spoiled grain is not very helpful to livestock feeders who may have spoiled feed on hand and for which no market can be found. When livestock prices are high, even the loss of one animal is expensive. The safest suggestion that can be made is that where a large volume of spoiled grain is on hand it might be worth testing it on one or two less valuable animals and if they do not show undesirable symptoms it may be assumed to be safe for other animals of the same class. The same would apply to poultry.

In summary, it may be said that frozen wheat can be a good feed for all classes of stock when fed in properly balanced rations. Oats and barley may suffer more loss of feed value from freezing than is the case with wheat. Flax may become dangerous if frozen before it is matured. The only way to determine the safety of spoiled grains as livestock feeds is to test-feed them to some animals before general use is made of them.

Note: Dr. Rasmussen is Chief, Animal Husbandry Division, Central Experimental Farm, Ottawa, Canada.

Peace Tower

Continued from page 5

we can bow and genuflect to an Englishman, we should be able to bend the knee likewise to one of our own Canadians. Even if some Canadians can think of a happier choice than Mr. Massey.

But back of Massey, what? It is common gossip in Ottawa that the appointment is a sop to French Canadianism. At least let us say it is an appeasing gesture. For a long time, for a very long time, French Canadians have called for a Canadian Governor-General. Nor is it hard to foresee a time when our Governor-General will be "unCanadien Français." Personally, I would far sooner see a French Canadian from my own country as Governor-General than some Englishmen I can think of who have been lacklustre tenants at Rideau Hall.

But my feelings and those of others as to the fitness of Massey or the suit-

ability of a Canadian Governor-General evade the issue. The question really is not so much "After Massey, who?" but "After Massey, what?"

Are we going to abandon "God Save the King" and sing only "O Canada?" Again, we already treat the Irish Ambassador as a foreigner and not as part of the Commonwealth. Will we someday treat the United Kingdom High Commissioner as a foreigner? Are we going to do an Empire strip tease—are we going to peel off one by one the garments which identify them, and us, as belonging to the Commonwealth?

Where is it going to end, many are asking? Here the French-speaking Canadians are embracing a Canadian Governor-General warmly. As for us English-speaking Canadians, we are merely shrugging our shoulders. Are we shrugging our way out of the Commonwealth?

After all, we haven't got a great deal more to do to become completely Republican. To many, to most Canadians, I think, this is a repugnant thought. Many of us do not sit down and decide what we *do* want and what we *do not* want. There is no discussion in homes, on the hustings, in pool parlors, on street corners about it. This would indicate our English Canada's indifference. I ask myself: Is Canada shrugging her way into a Republic?

This is not something we are seeking; this is not something we are heading toward; this is something we seem to be backing into.

Some here in Ottawa are afraid that we'll keep on backing up till we find we have become a second Ireland.

MOST FARMERS PREFER GOODYEAR TRACTOR TIRES NATION-WIDE SURVEY SHOWS *Big Margin Scored Over All Other Makes*

A coast-to-coast survey of farmers who own tractors has just been completed. The survey showed that Goodyear Tractor Tires are used by 53.4% of the farmers who knew what brand of tire was on their tractors. Conducted by an independent research group, the survey polled representative groups of tractor-owning farmers in every province to get a

national picture of farm tire preference.

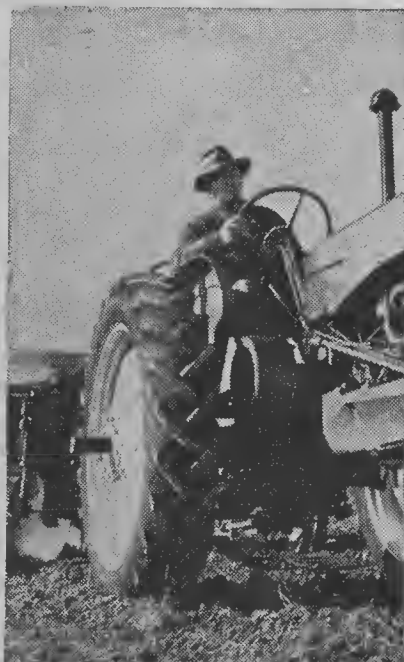
In addition to establishing the wide leadership of Goodyear Tractor Tires, the individual farmer's reasons for his preference were also brought out by the survey. It was clearly shown that farm tractor owners are keenly aware of traction, wear and pull in tractor tires.

During the survey, farmers being polled were asked to report on the make of tires now on their tractors, the make last purchased and the make they would purchase next. It is interesting to note that 63% of farmers who stated their buying intentions said they will buy Goodyear Tractor Tires when their present tires need replacing.



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According to the survey, the main reasons for preferring Goodyear Tractor Tires are longer wear and better grip. Goodyear Super Sure-Grip Tractor Tires give longer wear because their straight lugs, running right across the crown of the tire, are free from hooks or knobs that dull a lug's bite. Instead, sharp clean edges grip the earth firmly—prevent slip and wobble that causes premature wear.

Better grip is achieved by

other Goodyear features. These include the exclusive "wedge-grip," the result of setting the straight lugs closer together at the shoulder of the tire than at the centre. While the lugs are in the ground they actually wedge the earth between them, allowing the Super Sure-Grip to get a firm hold on the soil for maximum pulling power.

Another popular Goodyear feature is the famous Goodyear open-centre tread that results in superior tread cleaning.



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BOOK REVIEW

A Rural Study

A Toronto sociologist observes a rural community in Alberta, and comes up with some unexpected conclusions

IN 1946 a sociologist from the University of Toronto visited the Hanna district of Alberta. While in the community she placed the local people and institutions under a microscope—figuratively speaking—and attempted to determine what made them act the way they did. Following completion of her observations she prepared a book, entitled "Next-Year Country," in which she wrote of her findings.

If Miss Burnet were charged with being unsympathetic she would probably deny the charge, and indicate that she was only scientifically detached and unprejudiced. This raises the question as to whether a social scientist can ever be entirely detached. It appears that Miss Burnet did not find the small town and farm life that she saw attractive, and one wonders whether, seeing similar social maladies among residents of larger urban areas such as Calgary and Edmonton, she would not have been more understanding and less harsh.

The writer appears to have seen the worst in the community, and failed to observe the best. The references to moral irregularities, frequent suggestion that drinking of beer is a prominent social relaxation in farm areas, and reference to the failure of farm people to support their churches seem greatly overdrawn.

In discussing the churches the statement is made that: "In the countryside around there are many people who do not attend services, including men who drive their wives to church but do not go themselves. This is not astonishing; rather it is astonishing, in view of the complete lack of interest in church services in other dry-belt communities, that the churches include farm people at all!"

"... Among the men, poker, pool-hall, beer-parlor and loafing cliques are important informal groupings. From these most of the farmers are cut off at busy seasons because their homes are out of the village and because their work days are so long, but some belong. One of the beer-parlor cliques,

for example, includes several farm men and women.

"In contrast to the men's organizations, the women's are centered in the churches. The men have no equivalent of the United Church Ladies' Aid, the leading women's club of the town. It keeps its members in a state of almost feverish activity. Although they seldom do anything more significant than drink tea, they do it as a formally organized group..."

It is difficult to accept these assertions at full value. Miss Burnet often arrives at definite conclusions on a shred of evidence. One feels sure that she did not wish to be unfair to the people that she was studying; however, it is almost certain she was. Sociological studies are a useful thing, but they should not be written with inadequate knowledge, sketchy evidence and a lack of understanding.—R. H.

Next-Year Country—by Jean Burnet. The University of Toronto Press, Toronto. 188 pages. \$4.00.

Science on the Farm

A few of the directions from which science influences agriculture

LEEUEHNOEK, in the 17th century, was the first person to ever see and describe bacteria under a microscope. Recently, Sir Paul Fildes, British scientist, told the Royal Society that bacteriologists have been responsible for the very rapid increase in the world population. The bacteriologists have interfered with the disease germs which previously tended to kill people off faster and thus have influenced both economics and politics during the past 20 years. Having disturbed the equilibrium between food and population, Sir Paul said they must now restore it by bringing about greater food production by developing greater utilization of soil bacteria.

SEVEN research workers at the Wisconsin Agricultural Experiment Station have been engaged since 1949 in a kind of study of weather, that is different. They are studying small-scale weather—how wind, humidity, sunlight and temperature affect the weather in a particular cornfield, or in the vicinity of individual plants, and how the corn crop will affect the air surrounding and over it. What they are really studying is how sunlight is converted into atmospheric energy. The study is being conducted in a marsh which has been drained and is planted to corn. Instruments have been developed to make very accurate measurements of temperature, dew points and air movements.

WORK done by the U.S. Bureau of Agricultural and Industrial Chemistry has led to a new process for producing industrial alcohol from grain by which a mold product called fungalamylase is used in place of the traditional malt process. The Department reports that a plant using 12,000 bushels of grain per day could save more than \$1,000 per day in operating costs by shifting to the new process. This estimate was based on commercial-scale experiments at an Iowa

distillery. Yields of alcohol from corn are said to be the same as from the malt process, in addition to which the mold enzyme appeared to have no adverse effect on distilling operations, or on the quality of the alcohol.

THREE Wisconsin scientists are beginning to wonder whether the reason we are able to grow potatoes is because we have a very obliging fungus. They have found a fungus that lives in the potato tuber, contrary to our earlier belief that normal tubers and underground stems are always free of such organisms. Sixteen varieties and strains of Wisconsin potatoes, as well as samples from seven other states, have been tested. The fungus has appeared in every potato, wherever grown. These scientists then tried to grow potato plants in vermiculite, which is a porous, inorganic material. They were fed with a nutri-

ent solution and distilled water so that fungus infection would be unlikely. Only one of the 18 plants grown formed a tuber, and when this tuber was examined, a mycorrhizal-like fungus was found, which must have been introduced from outside. It is also known that when cranberry plants are grown from seed, and then set into a bog with no mycorrhizal organisms in it, the plant will grow, but will not produce cranberries.

IT is now possible to have bees collect apple pollen in one year and for the orchardist to take the pollen from the bees, quick-freeze it immediately, store it at a temperature which will keep it constantly very cold, and use the pollen the following year for pollinating trees. Such quick-frozen pollens germinate as high as 96 per cent after 12 months' storage.



This heifer, Acme Laura Rockette, bred and owned by Pickard and Clark, Carstairs, Alberta, was a first-prize winner at the Royal Winter Fair, Toronto, and then went on to be named All-Canadian heifer calf, the only animal from western Canada so named this year.

In Other Countries

What affects farmers of other countries may well interest Canadian farmers today

THE British Overseas Food Corporation has established, with the government of Queensland, Australia, the Queensland-British Food Corporation to produce process and market foodstuffs for the United Kingdom. A 250,000-acre target has been set for crops, with cultivation on a large scale. Four properties, of 92,596 acres, 118,098 acres, 52,208 acres and 51,372 acres, have been purchased for an average of something less than £1 per acre. The final objective of the corporation was declared to be the production of hogs for export to Britain.

GRAHAM bread takes its name from a Connecticut preacher, Dr. Sylvester Graham, who died in 1851; and who, as a vegetarian, combined his interests in improved human conduct with a campaign for improved human nutrition.

THE Illinois Farm Supply Company, an outgrowth and affiliate of the Illinois Farm Bureau, did \$69 million worth of business with farm bureau members in the state in 1951, and during the year had paid patronage refunds of approximately \$4 million.

AUSTRALIAN dairy farmers are guaranteed by the Commonwealth government a price based on their costs. A joint dairy industry advisory committee early in 1951 made a survey of farm costs and decided dairy farmers were entitled to an increase of 9½d. per pound commercial butter, or more than 11d. per pound butterfat. This brought the guaranteed price to 51.59d. per pound butterfat.

THE American Farm Bureau Federation has the largest membership of any farm organization on this continent and perhaps in the world. As at the beginning of this year, A.F.B.F. membership amounted to 1,452,210 in 46 states and Puerto Rico. This is the greatest numerical strength in Farm Bureau history.

ABOUT 34 per cent of the total income of the farmers in Switzerland is derived from dairying, due to the abundance of rain and the prevalence of sloping land unsuitable for cultivation. In 1948 there were about 800,000 cows in Switzerland, averaging 6,000 pounds of milk per year, and averaging 4.6 cows per farm.

A HOLSTEIN bull, Burke Fobes Abbekerk, belonging to a Pennsylvania breeding association, has bred 20,500 cows in less than five years, averaging only 1.53 inseminations per pregnancy. His performance is believed to constitute a U.S. record, and he is still being used.

SHORTAGES of meat and dairy products are currently reported as general throughout Argentina as a result of persistent drought and frost, which also affected seedlings of grain crops. Controlled prices are also said to be discouraging to producers of grain, butter and cheddar cheese. Argentina is not expected to have any exportable surplus of wheat during 1951-52 and, because of the drought, oats, rye and barley were being used largely for pasture.

A STATEMENT on food quality in relation to food processing recently issued by the National Research Council of the United States, indicates that one farm worker today produces food for 14 people, or 35 per cent more than ten years ago.

THE proportion of farms of under 25 acres in some European countries where agriculture is most prominent, is as follows: Norway 92 per cent; Germany, 81 per cent; Switzerland, 82 per cent; the Netherlands, 79 per cent; Belgium, 99 per cent; Australia, 68 per cent; France, 58 per cent, and Denmark, 49 per cent. In England and Wales nearly 40 per cent of all farms are under 15 acres in size; in Sweden 28 per cent are under five acres; and in Italy 36 per cent of all farms are under 2.5 acres.

UP to the end of November, 1951, U.S. farmers had put 237,442,197 bushels of all grains under price support, since the beginning of the crop year, July 1. More than 185 million bushels of this total was wheat.

UNTIL August of last year, the world's record for lifetime milk production was held by an American Holstein cow, Ionia Ormsby Queen, with 267,304 pounds of milk when she died at 18 years of age, in 1938. A British Friesian cow, Manningford Faith Jan Graceful, only 13 years of age, reached 267,315 pounds during the first week of August, and was still giving 86 pounds in her 9th lactation. Her heaviest production in any 365-day period was 37,471 pounds, and in any complete lactation, 45,498 pounds. During the latter she milked 607 days.

TWO Dane County, Wisconsin, brothers in 1951 put their whole crop of 53 acres of grass into one trench silo, 100 feet long, 12 feet deep and 15 feet wide. The University of Wisconsin reports that 400 tons of top-notch grass silage was available when the pit was opened about December 1.

AN Australian dairy estate which will eventually milk from 1,200 to 1,500 cows, has established one of the three known Rotolactors in the world. Cows to be milked enter stalls built on a circular platform, which revolves slowly somewhat like a merry-go-round, on which the animals are milked and ready for discharge by the time they reach the exit.

INDIA has a total food crop area of about 170 million acres, and has about 40 million farmers. Government schemes for increasing food production have been successful in the last three years, production in 1949-50 reaching 95 per cent of the target figure, which was 985,000 tons additional food production.

THE outbreaks of foot-and-mouth disease in Britain, which began November 14, 1951, were slowing down by the end of the year. Eighty-four outbreaks had been recorded up to January 1, 1952, involving slaughter of 4,639 cattle, 3,289 sheep, 2,076 pigs and four goats. Up to December 15, £280,636 compensation had been paid.



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C.F.A. Meets

Continued from page 7

tonnages of food products exported, the figures are: 1936-40, 5,815,286 tons; 1941-45, 8,507,040; 1946-50, 7,515,716 tons. The last figure was 34 per cent above prewar tonnage. Gross cash income for 1951, he said, was \$2,819,000,000, which was the highest ever achieved, either in total, or per individual farmer. It was double the wartime annual average and more than four times the five-year prewar average. Even if the dollar is now worth only half as much "... it is still twice as good as before the war."

One feature of the C.F.A. meeting this year was the atmosphere created by the goodly number of French-Canadian farmers and farm representatives who, meeting in their own province, took spirited part in the debates which followed the introduction of resolutions, speaking for the most part in French. This necessitated translation for English-speaking delegates, of these contributions, and for the French-Canadians, the translation of the speeches in English. J. A. Marion, second vice-president of the C.F.A., and president of l'Union Catholique des Cultivateurs, did a masterly job and satisfied everyone.

The meeting was also honored by the presence of the Prime Minister of Canada, the Rt. Hon. Louis S. St. Laurent, whose address at the annual banquet was general in character, as might have been expected, but friendly. In the course of his remarks, he said:

"I am sure I can speak for all of my colleagues in the government when I say we have appreciated and enjoyed, over the years, our relations with the members of the Federation. We have not always agreed about everything the Federation has advocated ... but I believe our relations have always been cordial and friendly and we like to feel that we have been frank with each other."

THE outlook for the Canadian farmer in 1952 was reviewed by Dr. E. C. Hope, Federation economist. Dr. Hope believed that the upward trend in general economic activity in Canada would continue throughout 1952, though it might slow up slightly. This would mean a further increase in domestic demand for food. The economic activity in the United States promises to continue at a high level; Canadian exports also will continue at a high level, but "... demand for our food with the exception of wheat," said Dr. Hope, "will likely remain poor." Wages may increase somewhat, and the general wholesale price level is likely to remain pretty much where it is until the last half of 1952, when there may be some further inflationary pressure."

Turning to agriculture, the available milk per person in Canada, "... will fall to an all-time low in 1952," Dr. Hope said, "and we shall move still more to a net import position in dairy products." Fluid milk prices are likely to rise here and there, and less milk will be available for butter, cheese and concentrated milk products. Indeed, Dr. Hope suggested that milk production per capita will reach a still lower figure in 1953.

As to beef, there are 200,000 more beef cows in 1951 than in 1949, when the low point was reached. Steers and

beef heifers also showed an increase in June, 1951, over 1950, which would appear to indicate a definite upward turn in the beef cattle production cycle. Beef cattle in the U.S. are at record numbers, having been built up earlier than in Canada. Marketings of beef cattle were declining and the same situation developed in Canada. "This is the usual situation just before prices begin to turn down," Dr. Hope said. "... It gives the illusion that beef supplies are very short, when in fact it is only market supplies which are short." And when marketings begin to increase in 1952 or 1953, they may be expected to rise for four to six years, accompanied by sharp decreases in beef prices as compared with prices for other farm products.

Hog production moves in shorter cycles of from three to five years from peak to peak. There have been four cycles since 1937 and it looks now, according to Dr. Hope, as though production will continue to rise to a peak in 1953, which would make the present cycle a five-year cycle.

The convention was told that "unless inflationary pressures are considerably greater than they are now, larger supplies of beef and pork will likely result in considerably lower pork and beef prices by 1953. Unless an export market opens up with Britain in 1953, the hog industry might well be in a difficult position next year."

Dr. Hope expected that wages paid to hired farm help will likely rise a little during the year; farm machinery will be down about 15 per cent; no serious shortages are expected in fertilizers; most other materials will be in adequate supply; and it is not likely that feed prices will move much from present levels. The net result is that the larger volume of animal products marketings "will likely bring about the same total cash income as last year but total costs will be a little higher."

BECAUSE Canada is naturally divided into East and West, the farm organizations in these two principal regions meet annually in advance of the C.F.A. annual meeting as the Eastern and Western Agricultural Conferences. There, resolutions emanating from all organizations in each region are screened, and the successful ones passed on to the national body for consideration. Prior to the C.F.A. annual meeting also, the Dairy Farmers of Canada meet and develop a policy statement which is presented to the C.F.A. for endorsement. At the C.F.A. meeting also, certain commodity groups such as the National Poultry Committee and the Hog Committee meet and present their conclusions either in the form of a policy statement or a series of resolutions. In all, the Federation dealt with nearly 60 resolutions, of which very few required more than a brief clarifying discussion.

Undoubtedly, the one resolution requiring the most discussion was the resolution from eastern Canada, by which the C.F.A. would have been bound to urge that the federal government take immediate action to establish a coarse grains bank in eastern Canada (of from one to five million bushels), to ensure an adequate supply of feed grains at all times. After considerable discussion in the general meeting, the resolution was finally referred to the board of directors who, meeting the day following the con-

vention, again discussed it at considerable length. It appeared that all western delegates were sympathetic to the desire of the eastern livestock producers to get away from wide fluctuations in feed prices. It had been proposed earlier by eastern farm organizations that the Canadian Wheat Board set up and operate such a feed bank. When approached, however, the Board turned down the suggestion as impracticable for a body set up to dispose of the grain of western producers at the best possible price. Some western delegates were disposed to support the resolution before the C.F.A. meeting, as evidence of their good will, despite their feeling that it could not be implemented. The issue was joined, not on the desirability of evening out the fluctuations and guaranteeing eastern feeders a constant supply of feed grains, but on the method proposed.

It was quite evident that this problem of feed supply and prices is a burning question in all five eastern provinces and in British Columbia. Supplies were said to be quite unevenly distributed, both geographically and throughout the feeding season, while prices appeared to carry an unwarranted premium, varying from \$3 to \$10 per ton. Eastern feeders want the government to maintain a feed bank so that both prices and distribution can be levelled out.

J. E. Brownlee, president of United Grain Growers Limited, led in criticism of the resolution, principally on the ground that the Canadian Wheat Board, having refused as a selling organization, to establish such a bank, it was doubtful whether any other federal agency could establish it on a basis satisfactory to the Wheat Board. He was entirely sympathetic to the aims of the eastern feeders but felt that the method of approach was wrong. It also seemed unlikely that such a bank could be established by the federal government without coming into direct competition with the private grain distributors who now serve the eastern feeder to the extent of perhaps 80 per cent of his supplies. Such a bank of grain hanging over the market unsold, might work to the detriment rather than to the advantage of the eastern feeder. In addition, there was no way of foretelling what grain from this bank might cost the feeder unless the government were to absorb any losses. If the federal government met any loss incurred, it would constitute a production subsidy. This would introduce an entirely different principle from that applied through the Canadian Wheat Board, which charges all costs back to the producer including administration, storage and transportation to the head of the lakes, the federal government assuming no responsibility, except for the initial payment.

This general argument was supported especially by W. J. Parker, vice-president of the Federation and president of Manitoba Pool Elevators, and by Roy C. Marler, president of the Alberta Federation of Agriculture, who said that the desire for a bank of feed grains was just as evident in Alberta as in eastern Canada, and that the Alberta Federation had been making representations on this very point to the Alberta government. He supported the argument of Mr. Brownlee that the quickest and most satisfactory method of securing what eastern feeders desired was for the eastern

co-operatives to approach and work through provincial governments, whose immediate concern it ought to be to encourage economy of production. Eventually, a compromise was reached which provided for a progressive method of approach leading to the provincial governments.

ANOTHER somewhat contentious resolution came forward from the Hog Committee and requested some system of compulsory grading of hogs on a live basis for those going from Canada to the American market. The proposal originated in the prairie provinces and was regarded with a great deal of suspicion by eastern producers who are firmly wedded to the rail grading system. The basis of the resolution is the hope of securing for the western hog producer the quality premium paid by the federal government. Time alone will show whether this concession can be secured, or whether, if secured, it will be used.

Dairying is the ailing child in the agricultural family at present, milk production per capita being down about 22 per cent below what it was ten years ago. In terms of milk equivalent, the imports of dairy products in 1951 were little greater than the exports of dairy products. Consequently, the statement of policy presented by the Dairy Farmers of Canada reflected the anxiety of the dairying industry. This anxiety met with sympathy from the C.F.A. meeting which, however, questioned the wisdom and propriety of a proposal that the government require importers to secure a permit before importing any dairy products, and that no such permits be issued until after consultation with an advisory board of the Dairy Farmers of Canada. At a time when Canada along with other countries is protesting similar procedure by the United States with regard to Canadian imports, the suggestion was not regarded as timely.

There is a persistent feeling among producers that price support policies should give greater recognition to producers' costs of production. A resolution was before the meeting (also referred to the Board) directing the C.F.A. to "... use all of its prestige and influence with the federal government to continue its price support policy, and at levels which would be in reasonable relationship to the cost of production of agricultural products." Present federal price support policy under the Agricultural Price Support Act is based on the maintenance of a fair relationship between prices paid and prices received by farmers in the last three years of the war. It is not related to cost of production, which would imply incentive prices. Mr. Gardiner is on record that it is not now, nor has it ever been, the policy of the government to provide incentive price supports.

Other resolutions ranged over a very wide field, from the world food program, price support policy and price control, to railway crossings, federal aid for education, and the St. Lawrence Seaway. Preliminary screening had made most of them acceptable.

It remains to be added that the 27-member board of directors of the C.F.A. will carry on during 1952 under the presidency of H. H. Hannam, with very little change in personnel.

The Country Boy and Girl



HAIRY WOODPECKER

FEBRUARY is a month with one of the longer names but it is our shortest month, even though this year we can add one day more for Leap Year. Here are some bird friends you may notice as you walk to school or you may see them around your farmyard looking for food—the saucy, handsome bluejay calling out his note of warning; the large, snowy owl sitting on a telephone pole or on top of a haystack and the other members of his family—the little screech owl and the large, tawny grey great horned owl. Also look for the downy woodpecker and the larger, hairy woodpecker barred with white on black and a red patch on the head, as you see in our drawing. The evening grosbeak giving forth a clear, warbling whistle you will easily recognize by his coloring of white, black, brown and dusty yellow. Perhaps

you will have the good luck to find a large golden eagle or bald eagle flying overhead looking for rabbits.

A game for indoor fun: you need a jar or bottle with a small open top and a box of toothpicks. The first player places a toothpick on top of the bottle, the next player does the same and they keep on, each adding a toothpick in turn, building up a tower of toothpicks without knocking any off. If one player knocks off a toothpick he loses the round and the other player wins one point. Then all the toothpicks are taken off the bottle and the game starts again. The player who scores ten points first wins the game.

Ann Sankey

Valentine for a Mouse

by Mary Grannan

JIMMY PETERS dashed up the front walk, rounded the corner of the house on one foot, and burst into the kitchen as if a cyclone were after him. His mother looked up from her bread board, and laughed.

"Well," she said, "you're certainly in a great hurry, Jimmy Peters. Is someone chasing you?"

"No, Mum," said the puffing Jimmy, "but Mum, do you know something? I almost forgot it was near to Valentine's Day, and do you know that I haven't got even one valentine made, yet?"

"Dear me!" said Mother, shaking her head. "Time does fly. I didn't realize Valentine's Day was so close to us either. Now let's see, what can we do about it?" Mrs. Peters wiped the bread dough from her hands and went to the desk in the living room. She came back with a large sheet of bright red blotting paper. "Cut hearts from this, Jimmy. Red hearts are the sign of love on Valentine's Day. You cut hearts, and when I get the bread in the pans, I'll find some lace in my sewing basket. You can glue lace rosettes to the red hearts and make some very pretty valentines. I may find some bits of ribbon too."

"Oh, thank you, Mum," said Jimmy. "Do you know that you're the nicest mother! You can always find things when a fellow needs them. Where are the scissors, please?"

"They're in the table drawer, and take yourself off to the attic to do your cutting. I don't want the living room littered with bits and pieces," said Mrs. Peters.

Jimmy found the scissors and was off, two steps at a time to the front attic room. He laughed when he reached the third floor. "I bet myself that no one ever came up to the attic that quickly before."

Jimmy was wrong, but he didn't know it. A little mouse had left the

kitchen, from the hole near the water pipe, at the same time as Jimmy, and had raced up between the walls ahead of him, and was waiting in a cranny near the old trunk, when Jimmy arrived. The little mouse had heard Jimmy's mother say that red hearts were a sign of love on Valentine's Day, and the little mouse had said to himself: "I love Marcellina Mouse. I want a red heart for Marcellina."

The little mouse kept very quiet in his cranny in the attic. He watched with beady eyes, while Jimmy carefully cut the red hearts from the red paper. When Jimmy had five beautiful hearts cut, he decided to go downstairs for the lace and the ribbon and the glue. This was Little Mouse's chance to get the hearts. He scampered into the room, and got one of the valentines between his sharp white teeth. He dragged it over to the hole in the wall. Then he went back for a second heart, and then a third. In a few minutes he had the five hearts ready to pull into the walls. But just when he was about to begin his difficult task, Jimmy came back into the attic. He gasped in amazement.

"Where are my hearts?" he cried. "Where are my valentines? I left them right there. I know I did."

Jimmy began to look around the room, and he spied the bright red paper against the wall and under a chair. Little Mouse was frightened now, and decided to run home, but Little Mouse had blocked the entrance to the hole with the blotting paper. He could not escape. With swift fingers Jimmy dived toward the tiny fellow, and picked him up in his hands. "So, you're the one who took my red hearts! I worked hard at making them, and you come along just to chew them all up."

"No, no," sobbed Little Mouse. "I wasn't going to chew them up. I was going to take them to Marcellina. I love her, and I wanted her to have a valentine."

Jimmy laughed as he set the mouse on the chair. "Little Mouse," he said, "I know a better kind of a valentine for a mouse. A cheese heart."

Little Mouse's mouth began to water. "Oh," said Jimmy, "you like that idea, eh? Well, now I'll tell you what I'll do. You wait here, and I'll go downstairs and get some cheese. I'll show you how to cut a heart from it, and you'll have all the tasty cuttings for yourself."

About a half hour later a little mouse with a beautiful cheese heart in his mouth squeezed through the hole in the wall and scampered away.

Jimmy put his ear to the wall to listen. He heard Marcellina gasp in delight as she read:

*"I bring you my love
On a Heart of Cheese—
Will you be my valentine, please?"*

Tips for Making Valentines

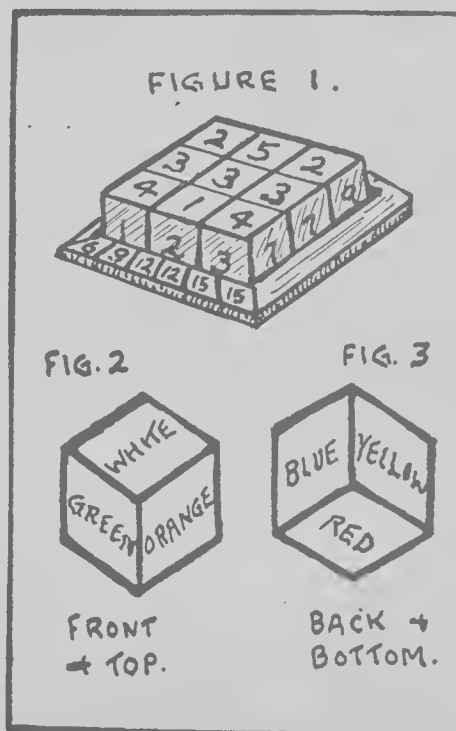
1. Ask for your mother's old Christmas cards.
2. Use the backs for cutting out large hearts as a base for each valentine, or you may scallop edges.
3. Collect all the gold or silver paper from the cards and cut out arrows and hearts.
4. Usually there are bright patches of red on Christmas cards. Cut these into hearts or flowers.
5. Pictures of children, snowmen and angels may be cut out. Paste tiny red hearts over any telltale bits of holly.
6. Assemble the pictures, arrows and hearts on the paper in interesting ways. You will be surprised at the pretty results.—Audrey McKim.

A Six-in-one Puzzle

HERE is a new magic square puzzle that is easy enough to make and it contains six puzzles in one.

First, saw up a stick of wood which is about one inch wide and one inch thick, to make nine wooden cubes.

The tray comes next. This needs four strips of wood and a thin plywood or cardboard base. The sides are nailed together and should be about half an inch deep and just large enough to take the nine cubes placed loosely in it (Figure 1).



Now you are ready for the finishing touches. It is best to sandpaper the blocks and tray. If painted then with a quick-drying enamel you will have a gay, washable, and lasting puzzle which will make a prized gift. For your own use, however, it is sufficient to color the wood with oil crayons or colored paper using a strong paste.

Each cube is colored as shown in Figure 2, one color to each of the six sides. A good way to do this is to put all nine blocks into the tray and paint all the top surfaces at once with one color. When these are dry, turn the cubes over, apply a new color and continue until all six faces are painted.

The front rim of the tray is then divided into six equal parts, and painted white, yellow, green, orange, red, and blue going from left to right.

If the puzzle is to be painted, the numbers are best placed on the cubes and frame with black enamel. If you are using crayons or pasting on paper the numbers can be done with black ink using a broad pen nib.

The nine cubes are numbered as follows:

White surfaces get numbers: 1, 1, 1, 2, 2, 2, 3, 3, and 3. Yellow surfaces: 1, 2, 2, 3, 3, 3, 4, 4, and 5. Green surfaces: 1, 2, 3, 3, 4, 5, 5, 6, and 7. Orange surfaces: 2, 3, 3, 4, 4, 4, 5, 5, and 6. Red surfaces: 1, 2, 3, 4, 5, 6, 7, 8, and 9. Blue surfaces: 2, 3, 4, 4, 5, 6, 6, 7, and 8.

The color areas on the front edge of the frame are numbered 6, 9, 12, 12, 15, and 15, from left to right.

And now for the game. The first move is to turn the cubes in the tray so that the same color is uppermost on every cube. Then you have to arrange the cubes in the tray so that the numbers add up to the required total (as shown on the corresponding color on the tray edge) when added in rows, columns, and diagonals.

For instance, suppose you select red which, by the way, is the athlete's favorite color. The red square on the tray edge says 15. This means you must arrange the numbers on the 9 red surfaces of the blocks so that when you add the columns vertically, horizontally, or even diagonally, the total always comes to 15.

Since there are six different colors there are obviously six different puzzles and the puzzles get more difficult the higher the number totals go. Baby will be able to solve the white one with a total of 6. The yellow puzzle is shown in diagram 1. Notice that the line totals are always 9. The green and the orange calling for totals of 12 each will keep you guessing for a while. The blue and orange puzzles with totals of 15 are for senior puzzle fans, the real wise owls, father and mother, and maybe granddad and grandmother.

In any case, this is family fun of your own making.—Walter King.

Do you hate to take medicine? Then rub your tongue with ice just before you take a bitter dose, swallow promptly, and for all you know, you might have been taking sweet honey. The cold ice momentarily deadens your sense of taste.

THE *Country* GUIDE

with which is incorporated

THE NOR'-WEST FARMER and FARM and HOME
Serving the farmers of Western Canada Since 1882

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King George VI -- 1936-1952

In almost the last minute of the last hour before The Country Guide's editorial page was scheduled to go to press, the news of the sudden passing of His Most Gracious Majesty, King George VI, was received.

The Country Guide cannot, therefore, at this time, attempt anything like an adequate appraisal of the late King's stature as a constitutional monarch, nor of his personal qualities of character which endeared him to all, and which have made so deep an impression upon the hearts and minds of millions of his loyal subjects within the Commonwealth of Nations and millions more beyond his realm.

Briefly, let it be stated—and we are sure that it will reflect the deeply stirred feelings of every reader of The Country Guide—that His Majesty, as a constitutional monarch, reigning through times of direst trouble, tribulation, strain, and testing, elevated the monarchy to the position in which it became the symbol binding together in united effort his free peoples in the defence and sustenance of their constitutional heritage of liberty and freedom.

As the head of his domestic family, the King also became the symbol of the ideal family life, emphasizing by the rectitude of his personal conduct and that of his gracious queen, that it is the family unit upon which the real and enduring greatness of nationhood is built.

To Her Majesty, the Queen Mother, and to Queen Elizabeth and her husband whose visit to Canada is so fresh in our minds, and to all members of the royal family, the hearts of all will turn in deepest sympathy in this time of their personal sadness and of the universal sorrow.

*"The flowers grow by
The tears that fall
From the sad face
Of the skies."*

The late King would have wished—who can doubt it—that our sadness at his passing might be mingled with our determination to assist the young Queen through our prayers and practical help as citizens of a free Commonwealth to carry on her appointed task in the spirit of her revered father.

The Country Guide believes that this will be the desire and determination of its readers.

A Priority for Agriculture

The Canadian Federation of Agriculture has put forward a request that needs only to be stated in order to receive the endorsement of all serious students of current affairs. The C.F.A. requests the federal government to declare agriculture an essential industry so that it may share in priority rating in distribution of scarce materials. NATO rearmament, for instance, has created an acute world-wide shortage of steel. It is highly important that this be not reflected in a serious shortage of farm implements at a later date. The allied nations, faced with heavy shipping losses in the last war, discovered the strategic importance of food surpluses at the other end of the shortest ocean journey. In war or peace the agricultural productivity of this continent is one of the bulwarks of the free world.

In contradistinction, the changes which have come over Argentine agriculture in the last decade are illuminating. The monthly publication of the Royal Institute of International Affairs describes in its January issue how the farmers and stockbreeders of the Pampas have gone from bad to worse under the regime which now controls that country.

Prior to the war agriculture was the main prop of the Argentine economy. Its wide areas of fertile land and a favorable climate for animal husbandry made that country an important exporter of many agricultural staples. It was the world's largest source of export beef.

Following a new policy of industrialization and strident nationalism, a government agency was given the monopoly of the Argentine grain trade. It bought grain from producers at fixed prices and sold the surplus abroad at prices which sometimes amounted to 300 per cent of the money paid to the farmers. Artificially induced industrialization drew farm labor into the cities with an inordinate increase in farm wages. As higher city wages stimulated the domestic requirements for food, prices rose. The government's reply was to fix virtually all prices for farm produce at levels that led to the steady impoverishment of land owners. A system of differential exchange rates served as a tax on both exports and imports.

Under these many burdens farm productivity declined. Higher urban wages made greater demands on home grown food creating a sharp drop in export surpluses. The R.I.A.'s author reports the threatened collapse of Argentina's agriculture. "Food shortages are beginning to occur in Buenos Aires, a city flanked on three sides by one of the largest and most fertile areas in the world. Argentina's capacity to earn foreign exchange and import vitally needed equipment and materials is reduced to a level that must be far below even the minimum of absolutely essential requirements."

A resolution proclaiming the primacy of agriculture, such as the C.F.A. put forward in Montreal early this month, would have had unhesitating acceptance in Buenos Aires before the war. What a fall there has been since that time under the impact of ill-considered political meddling! It could not happen here. Or could it?

New Cost-of-Living Index

The announcement of January 24 that the outmoded cost-of-living index is to be replaced by a more up-to-date one will get a mixed reception. In these inflationary times the cost-of-living index is an important yardstick. Union demands for wage increases are based upon it. White-collar workers who are not and cannot be unionized, and farmers, measure the steady erosion of their economic position by it. Governments may stand or fall by the effect of their policies to control it.

It is widely admitted that the old cost-of-living index was, in fact, no accurate measure of the real changes in the cost of living. The formula by which it was calculated was set up in depression times. It was arrived at by determining the basic necessities of a family living not very far above the bare subsistence level. It did not pretend to measure the changes in the cost of living among people who enjoyed even the most modest luxuries. Standards of living have increased considerably since the old index was set up. The average family now regards as necessary many of the things that were not included in it. The DBS is to be congratulated on setting up a new formula which comes closer to what a cost-of-living index purports to be.

It is reported that the base year for the new index will probably be 1949, "because it forms the first full year in which the transition to a peacetime economy was completed." Thus the average costs of the goods and services included in the formula for the 12 months of 1949 would be taken as 100 and today's index would read between 115 and 125. Farmers have learned the importance of selecting an appropriate base year. Many of the statistics now in use are based on 1939. At that time agriculture was only recovering from a period of extreme prostration and it is palpably unjust to perpetuate relationships that existed at that time between agriculture and the other sectors of the national economy. We do not know if 1949 is a fair base period. We doubt if any one year can be accepted as a base period for all the variety of activities in Canada. A period embracing a number of years is more likely to register the desired equilibrium.

Doubtless we will feel much less alarmed to be told at the end of 1952 that the cost-of-living index is 135 instead of being faced with an index of 200.

To be fair to the authorities it is reported that the old index will be kept up for six months after the new one is in use, but we shall be told that they cannot be equated as they rest on different commodity bases. In any case, the confusion of two cost-of-living indices will disappear before the date of the next federal election.

Damp Grain

The unfavorable harvest weather of 1951 may turn out to be one of the major crop disasters on record. Many farmers have grain still standing in the fields. Many have damp grain threshed for which they cannot find an outlet. Some of these men have yet to sell a dollar's worth of wheat, their main source of income. Grain elevator companies have been forced to limit the amounts they can accept because every bit of grain drying capacity from Prince Rupert to Port Arthur is booked for day and night operation from now till long after spoiling would normally commence.

Every agency concerned with the handling of grain is energetically searching measures by which the loss from spoilage at a later date may be lessened. The Wheat Board is selling tough grain overseas as rapidly as possible without processing, in order to utilize all the available machinery for drying grain beyond the critical moisture content. Storage and drying capacity in the United States is being examined in the hope that a considerable quantity may be dried in bond. Too much should not be expected of this outlet because the Americans have a tough corn crop of their own which will tax their drying equipment. Furthermore, the heavy freight charges involved make it an expensive solution although every bushel dried at Duluth or elsewhere will mean one less bushel spoiled.

As everyone knows, grain drying by small farm plants has been regarded with disfavor. Unless temperatures are closely controlled, the grain loses its milling value and control is hard to maintain in small drying units. Nevertheless, before it becomes too late to do anything about it, those farmers who have access to small drying plants will have to consider the advisability of running this chance on at least a portion of their crop. Even though it may prejudice its sale for milling at a later date, it may be the means of saving it for feed. The Guide mentions this possibility with a great deal of reluctance because everyone still hopes for the miracle. The only merit in making this suggestion now is that in a few months' time it will have become too late. The next few weeks will disclose whether the picture will turn out to be as dark as today's expectations lead one to fear.

India's Election

As this is being written the most remarkable election ever held in a democratically constituted country is taking place in India. Throughout December and January 175 million voters, half of whom are not able to read or write, will go to the polls to elect representatives for the national parliament and for 27 regional state legislatures.

Taking the poll of a mass with such a high percentage of illiteracy has been made possible by the use of a novel device. The ballot contains, beside the names of the contending candidates, symbols representing the candidate's party, and the voter marks a cross beside the symbol of the party he wishes to support. The symbols are very simple and have been well publicized by the candidates in their spoken appeals for support. The Revolutionary Communists, for instance, are represented by a flaming torch, and the governing Congress party by a pair of yoked bullocks. The mechanics of this unique election were worked out by several "trial elections" held in various places to discover what aspects of the electoral machinery would require special attention.

The prospect of an orderly democratic election under the special difficulties which exist today in India is a tribute to the long tutelage under British rule. Removed from its own native climate, twentieth-century democracy is a tender plant. The other Commonwealth nations salute India and trust that it can nourish the ideas of government learned from its former imperial masters and shape them to a form adapted to her own special needs, to ensure the advancement and happiness of her people.